APRIL 1, 1954

MODERN MEDICINE

The Journal of Diagnosis and Treatment

Dr Dwight L. Wilbur

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With Nitranitol *hypertensives can return to a more normal life...sooner*

Restricted activity and frequent laboratory checkups are often a concern to the patient. You can return many hypertensives to a more normal life with Nitranitol. *Because of its low toxicity*, blood pressure is safely lowered—side effects are the exception rather than the expected. *Nitranitol acts directly* on the arterioles to produce gradual vasodilation. *It maintains lowered pressures* for prolonged periods.

Why not start your hypertensive patients on Nitranitol—the universally prescribed drug for essential hypertension?

Because of its direct action on the arterioles, Nitranitol provides SAFE, GRADUAL, PROLONGED vasodilation, now in 6 dosage forms.

Nitranitol
Mannitol hexanitrate **32 mg.**

Vasodilation plus sedation:
Nitranitol with Phenobarbital
Mannitol hexanitrate **32 mg.**
Phenobarbital.....**16 mg.**

Protection in capillary fragility:
Nitranitol with Phenobarbital and Rutin*
with Rutin.....**20 mg.**

When threat of cardiac failure exists:
Nitranitol with Phenobarbital and Theophylline*
with Theophylline..**100 mg.**

For refractory cases of hypertension:
Nitranitol P. V.*
with Alkavervir.....**1 mg.**
(A special alkaloidal fraction of Veratrum viride, biologically standardized for hypotensive activity.)

NEW
Nitranitol R. S.
...for direct vasodilation plus added hypotensive and sedative actions of RAUWOLFIA.
Mannitol hexanitrate..**32 mg.**
Rauwolfia serpentina..**0.5 mg.**

**Each contains Nitranitol 32 mg. and Phenobarbital 16 mg.*

DOSAGE: In blood pressures over 200 systolic, 2 tablets 4 times daily. In other cases, 1 or 2 tablets every 4 to 6 hours.

NOTE: *Nitranitol is exceptionally stable, assuring potency, so important in hypertensive medication.*

Trademark 'Nitranitol P. V.'

This chart shows the blood pressure response you can produce for your hypertensive patients.

Nitranitol

MERRELL'S SAFE, GRADUAL, PROLONGED-ACTING VASODILATOR

Merrell
SINCE 1828
CINCINNATI
New York St. Thomas, Ontario

The Wm. S. Merrell Company . . . *Pioneer in Medicine for 125 Years.*

PHOTOGRAPH BY CHARLES KERLEE

He'll skip dessert and <u>like</u> it, too—with

ALTEPOSE®

Most overweight patients need your help to pass up such rich foods—and still be content.

ALTEPOSE provides *triple* action in obesity—curbs the appetite, controls nervous tension, helps convert excess fat into energy.

Quick Information: A practical adjunct to low calorie diets, each ALTEPOSE tablet provides 50 mg. 'Propadrine,' 40 mg. thyroid and 25 mg. Delvinal®. The usual dose is one tablet taken two or three times a day, one-half to one hour before meals.

MODERN CONTENTS

Volume 22
Number 7

MODERN MEDICINE
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MEDICINE
for April 1, 1954

(Continued on page 4)

Walter C. Alvarez
Editor-in-Chief

●

THE MAN ON THE COVER is Dr. Dwight L. Wilbur of San Francisco, Clinical Professor of Medicine at Stanford University. He is chief of the medical service at French Hospital and a member of the staffs of Stanford and Children's hospitals. In 1926, he received the Frederick A. Packard prize from the University of Pennsylvania. Dr. Wilbur is editor of *California Medicine*, associate editor of *Gastroenterology*, and a member of the board of *Modern Medicine*. He is author of many articles on the kidney, the gastrointestinal tract, and nutrition, including the report on page 81, "Fatigue: Symptoms of Emotional Conflict."

CONTINUED

Contents for April 1 1954

(Continued on page 6)

for nutritional insurance during pregnancy

SPECIFY

PRENALAC

(Prenatal Nutritional Supplements, Lilly)

provides recommended daily

vitamin and mineral requirements

FORMULA

SIX PULVULES PROVIDE:	
Thiamine Mononitrate	1.5 mg.*
Riboflavin	3 mg.*
Vitamin B_{12} (Activity Equivalent)	30 mcg.†
Ascorbic Acid	100 mg.*
Nicotinamide	15 mg.*
Folic Acid	0.4 mg.†
Vitamin A Synthetic	6,000 units*
Vitamin D Synthetic	400 units*
Iron (as Ferrous Sulfate)	15 mg.*
Dicalcium Phosphate equivalent to:	
Calcium	1.5 Gm.*
Phosphorus	1.14 Gm.*

*Daily requirement, Food and Nutrition Board, National Research Council

†Requirement not established

IN BOTTLES OF 100, 500, AND 1,000

DOSE

1 OR 2 PULVULES T.I.D.

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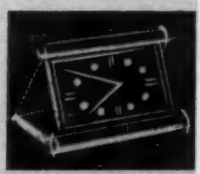
Phospho-Soda (fleet)®

A laxative of choice for half-a-century

GENTLE



PROMPT

THOROUGH

Purgative: 4 teaspoonfuls or more before breakfast.

Aperient or Mild Laxative: 2 teaspoonfuls before breakfast or, if indicated, before other meals.

Administer in one-half glass of water, followed by second glass.

Phospho-Soda (Fleet) is a solution containing in each 100 cc. sodium biphosphate 48 Gm. and sodium phosphate 18 Gm.

C. B. Fleet Co., Inc. • *Lynchburg, Virginia*

'Phospho-Soda' and 'Fleet' are registered trademarks of C. B. Fleet Co., Inc.

Also Gentle... Prompt... Thorough
THE FLEET ENEMA
in the "squeeze bottle" disposable unit

MODERN MEDICINE

Therapeutic Index

for April 1, 1954

THIS INDEX, prepared for your convenience, lists all advertised products in this issue by general therapeutic classifications. Specific information covering formula, dosage and indications will be found on the pages listed.

Vioform® CREAM
(IODOCHLORHYDROXYQUIN CIBA)

FOR eczema

Despite the diagnostic complexities of the many forms of eczema—acute, subacute, chronic, infectious, etc., treatment with Vioform Cream or Vioform Ointment is uniformly simple, convenient, and, above all, consistently effective. Vioform has been termed "one of the best antieczematous, mildly soothing . . . remedies."*

Issued: Vioform Cream 3% and Vioform Ointment 3%, 50-Gm. tubes, 1-lb. jars.
Ciba Pharmaceutical Products, Inc.
Summit, N. J.

*Sulzberger, Marion B., and Wolf, J.: Dermatologic Therapy in General Practice, ed. 3, Chicago, Year Book Publishers, Inc., 1948, p. 107.

C I B A

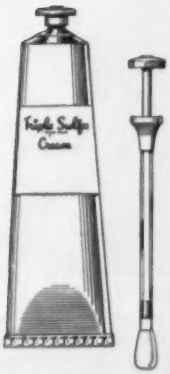
2/17368

in postpartum care

multiple sulfonamides

for maximum effectiveness

reduces postpartum morbidity
lessens discomfort
eliminates odor



Triple Sulfa Cream

TRADE MARK

in postpartum care
in nonspecific leukorrhea
after cervical conization

Ortho

MODERN MEDICINE

THE JOURNAL OF DIAGNOSIS AND TREATMENT

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RIASOL is better for PSORIASIS

In a series of 231 cases of psoriasis[1] receiving various methods of treatment, remissions occurred in only 16.5%.

In a special series[2] of stubborn cases, all of which had failed to respond to other treatments, **RIASOL** was the only medication applied.

The results with **RIASOL** were as follows: Definite improvement in 76% cases, complete clearing of skin patches in 38%, scaliness cleared or greatly relieved in 71%, average healing time 7.6 weeks, no ill effects in any case, failures 24%.

Clinical statistics show that **RIASOL** is better for psoriasis.

RIASOL contains 0.45% mercury chemically combined with soaps, 0.5% phenol and 0.75% cresol in a washable, non-staining, odorless vehicle.

Apply daily after a mild soap bath and thorough drying. A thin invisible, economical film suffices. No bandages required. After one week, adjust to patient's progress.

RIASOL is supplied in 4 and 8 fld. oz. bottles at pharmacies or direct.

1. Arch. Dermat. & Syph. 35:1051, 1937.
2. Med. Rec. 151:397, 1940.

MAIL COUPON TODAY—TEST RIASOL YOURSELF

:HIELD LABORATORIES **Dept. MM 4-54**
12850 Mansfield Ave., Detroit 27, Mich.

Please send me professional lit-rature and generous clinical pack-ge of RIASOL.

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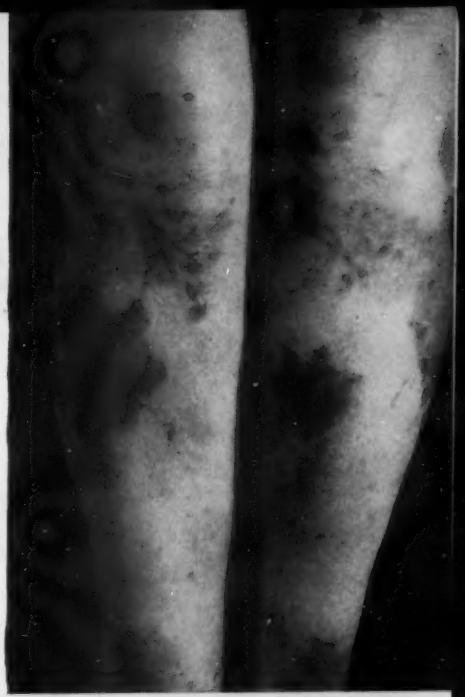
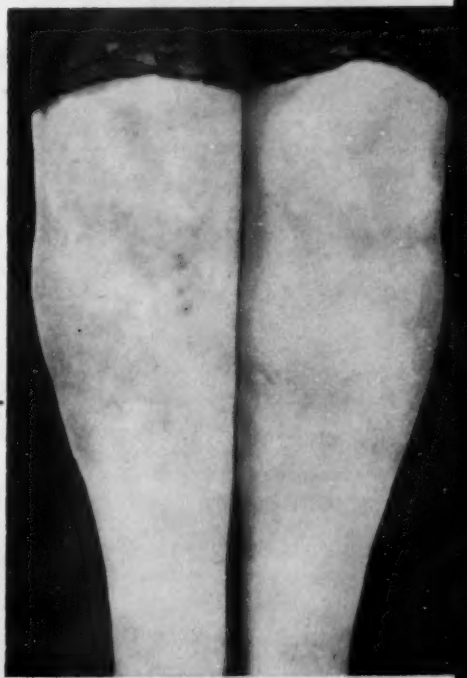
Zity..... Zone... State....

Druggist..... Address.....



BEFORE USE OF RIASOL



AFTER USE OF RIASOL

RIASOL FOR PSORIASIS

Allergy Relief...

Clinical samples of this new antihistaminic are available on request!

Prescribe Clistin Maleate for your patients who have not responded to the older antihistamines.

. with Better Clinical Results

A new antihistaminic compound of greater therapeutic effectiveness but with fewer side effects—just released.

NEW CLISTIN* MALEATE

(PARACARBINOXAMINE MALEATE, McNEIL)

Offers *Potency*—as great as any known agent (average adult dose 4 mg.)!

Far greater margin of safety between the therapeutic dose and the toxic dose.

Low incidence of side effects—as indicated by actual clinical trial.

Palatability—practically tasteless, will not produce local anesthetic effects in mouth and throat.

Supplied in:

Tablets, 4 mg. scored, imprinted 'McNeil'—100's and 1000's.

Elixir, 24 mg. per fl. oz. Each 5 cc. (average teaspoonful) provides 4 mg. Pints and Gallons.

McNEIL

LABORATORIES, INC.
PHILADELPHIA 32, PA.

*Trademark

MODERN MEDICINE

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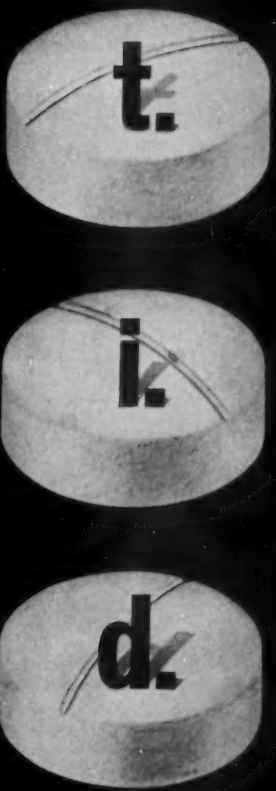
1st choice for oral penicillin therapy

just 1 or 2 tablets

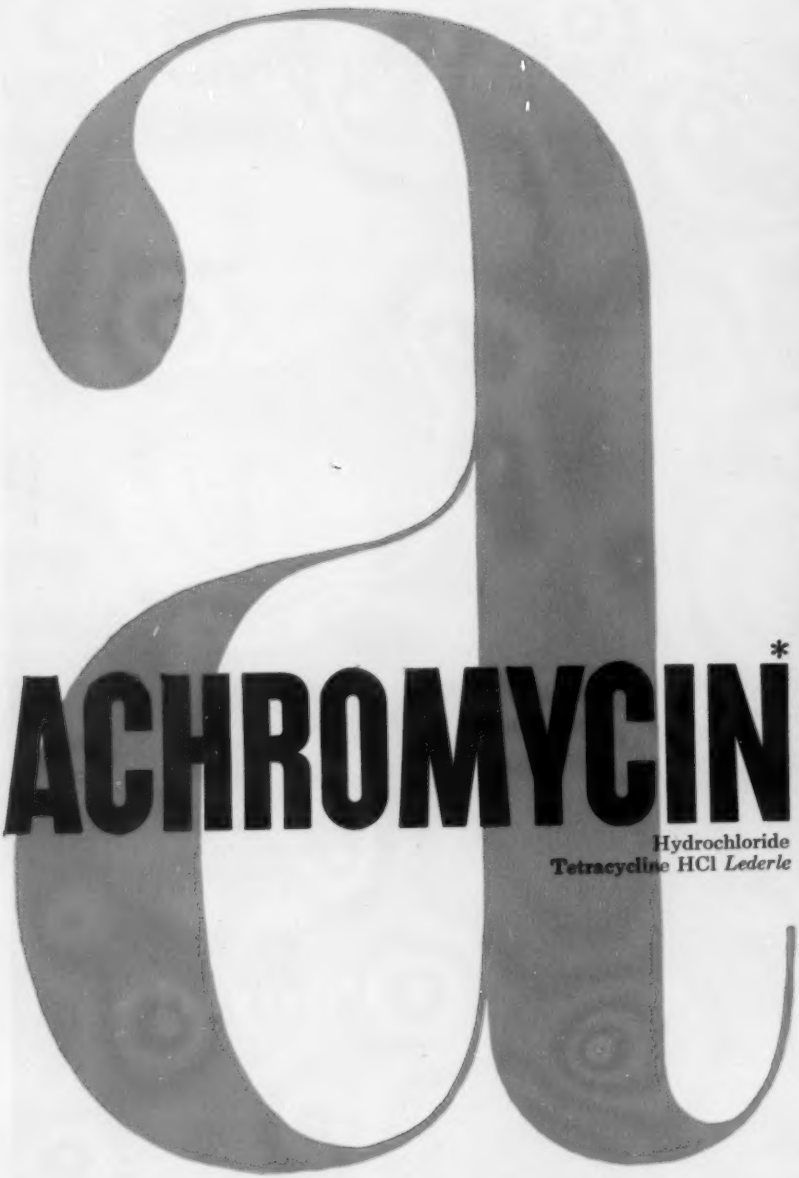


Pentids

Squibb 200,000 Unit Penicillin G Potassium Tablets

"PENTIDS" IS A TRADEMARK

SQUIBB


ACHROMYCIN*
Hydrochloride
Tetracycline HCl Lederle

A NEW BROAD SPECTRUM ANTIBIOTIC

"well tolerated by all age groups"

ACHROMYCIN, a new broad spectrum antibiotic, has proved its effectiveness in clinical trials among all age groups, and has definitely fewer side reactions associated with its use.

ACHROMYCIN maintains effective potency for a full 24 hours in solution, and provides rapid diffusion in tissues and body fluids.

ACHROMYCIN is effective against beta hemolytic streptococcic infections, *E. coli* infections, meningococcic, staphylococcic, pneumococcic and gonococcal infections, acute bronchitis and bronchiolitis, and certain mixed infections.

CAPSULES: 250 mg. 100 mg. 50 mg. • TABLETS: 250 mg. • SPERSOIDS* Dispersible Powder: 50 mg. per teaspoonful (3.0 Gm.) • INTRAVENOUS: 500 mg. 250 mg. 100 mg.

LEDERLE LABORATORIES DIVISION *AMERICAN Cyanamid COMPANY* PEARL RIVER, N.Y. Lederle

**Reg. U.S. Pat. Off.*

LETTER FROM THE EDITORS

Dear Reader:

Just before the kids get off to school in the morning there are a few moments of frenzied questioning. Sis can't find her pink wool skirt. One of Bud's white bucks is missing. The car keys are off the accustomed hook. From every quarter the cry goes up, "Mom, where is it?" Luckily, Mom knows the answers and the day is off to a good start.

Knowing where to find it is a problem that besets us all. Every day we get letters from physicians who want to know where to get some product mentioned in *Modern Medicine*. We are glad to be of what help we can, but it has occurred to us that perhaps we could save your time by organizing this information so that it will be easily available to you without writing a letter.

In this issue on pages 8 and 10, immediately following the Table of Contents, you will find a new department, a "Therapeutic Index." Each drug which appears in the advertising pages of *Modern Medicine* is listed by name under the appropriate therapeutic classification together with the page number of the advertisement.

This will be a regular feature of *Modern Medicine*. It is offered for your convenience, to provide you with an up-to-date compilation of drugs currently advertised. The therapeutic classification enables you to note at a glance the products available for treatment of a specific condition. The page reference gives you easy access to the advertisement for information on the composition, action, and uses of the drug, the method of administration, the manufacturer's recommendation on dosage, and how the material is supplied.

New drugs and new combinations of drugs are being made available through the prescription drugstores all over the country. The "Therapeutic Index" gives you a running summary of these developments and will keep you informed of the availability of the important products coming out of medical and pharmaceutical research.

The Editors

For growth and appetite
in below-par children

TROPHITE*

B_{12} plus B_1

The only high potency combination of two growth-promoting, appetite-stimulating factors in two dosage forms.

In each teaspoonful (5 cc.), and in each tablet:

25 mcg. of B_{12} the "marshalling agent which effects reorganization of a variety of metabolic derangements involved" in simple growth failure.[1]

10 mg. of B_1 the factor whose value in combatting anorexia and deficient growth has long been known.[2]

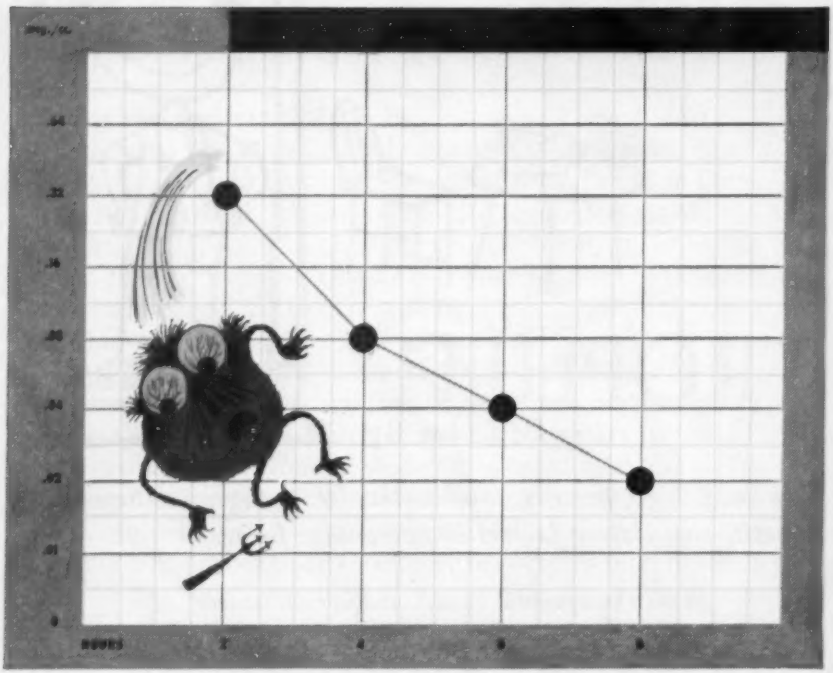
Recommended dosage: Only one teaspoonful or one tablet daily.

1. Wetzel, N.C.; Hopwood, H.H.; Kuechle, M.E., and Grueninger, R.M.: Clinical Nutrition *1*:17 (Sept.-Oct.) 1952.
2. Best, C.H., and Taylor, N.B.: The Physiological Basis of Medical Practice, Baltimore, Williams & Wilkins, 1950.

Smith, Kline & French Laboratories, Philadelphia

*T.M. Reg. U.S. Pat. Off.

Now.



The Pediatric ERYTHROCIN *Plasma Levels represent median values in 10 subjects. Data are based upon single doses of 200 mg. of* Pediatric ERYTHROCIN *Stearate Oral Suspension.*

DOSAGE

One 5-cc. teaspoonful represents
100 mg. of ERYTHROCIN
25-lb. child—½ teaspoonful
50-lb. child—1 teaspoonful
100-lb. child—2 teaspoonfuls
Every 4 to 6 hours

404114

. . . 2 hour *Peak Blood Level*

A 2-hour peak blood level—administered in a palatable form.

That's what you offer little patients with a prescription for *Pediatric* ERYTHROCIN Stearate Oral Suspension. Not only a 2-hour peak level, but inhibitory concentrations for 8 hours. (See the blood level chart on the opposite page.)

And almost all children like *Pediatric* ERYTHROCIN. They like its sweet, candy-like taste . . . its rich cinnamon flavor.

Pediatric ERYTHROCIN is kind to children, too. No problem of gastrointestinal disturbances. *It's less likely to alter normal intestinal flora than most other oral antibiotics.*

You'll find *Pediatric* ERYTHROCIN active against the majority of coccal infections . . . against cocci that have become resistant to penicillin and other antibiotics. And especially advantageous when the child is sensitive to other antibiotics.

Pediatric ERYTHROCIN is ready-mixed—stable for at least 18 months. Can be administered any time. Available in 2-fluidounce, pour-lip bottles. Abbott

pediatric

Erythrocin TRADE MARK *suspension*

(Erythromycin Stearate, Abbott)

Tasty . . . Stable . . . Ready-Mixed

Correspondence

Communications from the readers of MODERN MEDICINE *are always welcome. Address communications to The Editors of* MODERN MEDICINE, *84 South 10th St., Minneapolis 3, Minn.*

Helpful Sketches

TO THE EDITORS: I would like to make a suggestion that may help many men in general practice.

On numerous occasions, I have noted that physicians are not clear in their own minds what they are supposed to see on the fluoroscopic screen when viewing normal and diseased hearts.

The sketches in the January 1, 1954 issue of *Modern Medicine* (p. 99) have given me the following idea:

It would be helpful if one of your artists were to construct a sketch table in which the normal fluoroscopic views were at the left with the three views of each disease entity in each subsequent column. At the bottom would be the electrocardiographic variants.

If this were printed on a separate sheet which could be removed from the journal, it then would be an asset to the doctor because he could paste it on the wall near the fluoroscope and rapidly refresh his memory as needed.

Many years ago, I did this in one of the clinics where I had occasion to demonstrate these conditions to medical school seniors and to "visiting firemen" as well. Even though my sketches were amateurishly poor, they helped me to explain and the others to understand what was going on and how a diagnosis was reached.

MORRIS CHAMURICH, M.D.

Bronx

Infant Feeding Problems

TO THE EDITORS: May I express most emphatic disagreement with the care of lactating nipples recommended in the article on infant feeding written by Dr. Clifford Sweet (*Modern Medicine*, Jan. 1, 1954, p. 83).

Dr. F. Charlotte Naish in her excellent text on breast feeding states that the use of hardening agents for the nipples should be absolutely forbidden. She adds that the nipple should not be hardened by scrubbing with a brush, as hard skin is more likely to crack than soft skin. If the nipple is accustomed to being handled, she continues, soft-skinned nipples withstand suckling best.

Furthermore, what nursing mother, from merely the cosmetic aspect, desires that "the nipples finally become as calloused as a laborer's palms?"

GANTRISIN
'Roche'

GANTRISIN
'Roche'

GANTRISIN
'Roche'

a single, soluble,

wide-spectrum sulfonamide

When in doubt about antibacterials—

We believe you'll agree that most of them are rather good. Still, we hope you'll try Gantrisin 'Roche'...because this single sulfonamide is soluble in both acid and alkaline urine...because it has a wide antibacterial spectrum ...an impressive clinical background...and, above all, because it's so well tolerated by most patients.

Gantrisin® -- brand of sulfisoxazole

Cracked nipples represent one of the chief deterrents to successful breast feeding, and so-called "hardening" of the nipples contributes to their cracking.

Let us leave to the judgment of the oncologic pathologist the possibility of etiologic significance in the occurrence of Paget's disease in nipples so traumatized, even iatrogenically.

NORMAN MAC NEILL, M.D.
Philadelphia

Alcohol Addiction

TO THE EDITORS: Though self-medication by apomorphine for alcoholic addiction was first introduced by Dent of London, Dr. G. de Morsier's recent article makes it two therapeutic agents that the Swiss have taken from others and enlarged upon. Klein first reported that levulose caused a marked increase in ethanol metabolism, but Pletscher carried his work further, showing that levulose speeded up this process 8 times as fast as did glucose.

We would like to call attention to these agents in the treatment of alcohol addiction, with the hope that others more capable and with better facilities than we will investigate them. We feel that a combination of the two affords by far the best means of detoxification, sedation, and arrest of alcohol addiction offered today.

Dent is correct in saying that apomorphine does take away the craving for alcohol without its association with the vomiting of alcoholic beverages. We have treated 6 patients with apomorphine, none of whom were given alcohol or

Moist and soothing
to irritated, inflamed surfaces... ready for immediate use...

- in pruritus ani, vulvae
- in diaper rash, and other common dermatoses
- as a dressing following episiotomy, hemorrhoidectomy, fistulectomy, etc.
- for cleansing purposes following such procedures

TUCKS

... are pads of pure, soft cuting flannel, saturated with a solution of witch hazel 50%, glycerin 10%, distilled water q. s.

Supplied in jars of 100 pads.

Try ..... TUCKS

Samples on request

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Pharmaceutical Company
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why stop **PROTEIN DIGESTION**
to correct **HYPERACIDITY**

Ordinary antacids stop protein digestion, but an *in vivo* study by Tainter* proves that AL-CAROID, by virtue of its "Caroid" content, maintains protein digestion while correcting hyperacidity.

WRITE FOR PROFESSIONAL SAMPLES

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antacid-digestant *powder and tablets*

Al-Caroid and Caroid, T. M. Reg.

*Tainter, M. L., et al: Papain, Ann. New York Acad. Sc. 54:143-296 (May) 1951.

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emetic doses after treatment was started. The "Act of Surrender" was seen in 2 of these. The craving for alcohol was abolished after 2 injections and all have remained sober to date.

MAURICE PRUITT, M.D.
Chattanooga

Control of Nosebleed

TO THE EDITORS: Epistaxis as a rule is controlled without undue difficulty by the general practitioner. The bleeding, however, often recurs with or without apparent provocation.

Most of these nasal hemorrhages occur in Kiesselbach's area and are easily visualized. Usually, packing or local application of 50% silver nitrate or other caustic material takes care of the oozing for the time being. More permanent stoppage is obtained by a cotton pack soaked in cocaine or another local anesthetic to deaden the area which is then lightly sprayed with the desiccation current.

Occasionally, if the oozing is quite free, time may be saved by straddling the septum with the blades of an ordinary chalazion forceps. With the flat rounded end of one blade over the oozing area, the instrument is tightened enough to produce considerable local compression. Usually after a minute

(Continued on page 33)

In hypertension . . .

A safer tranquilizer-antihypertensive

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A pure crystalline alkaloid of Rauwolfia serpentina

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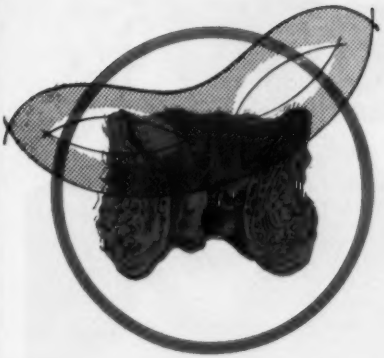

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Acetophenetidin.....100 mg.

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In bottles of 24 and 100

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(1) Vainder, Milton: Indus. Med. & Surg. 22:183 (Apr) 1953

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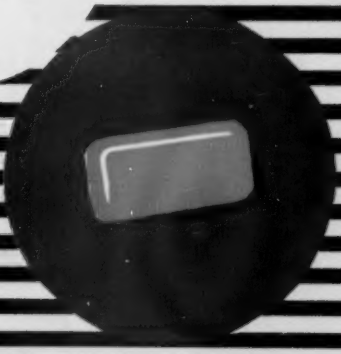

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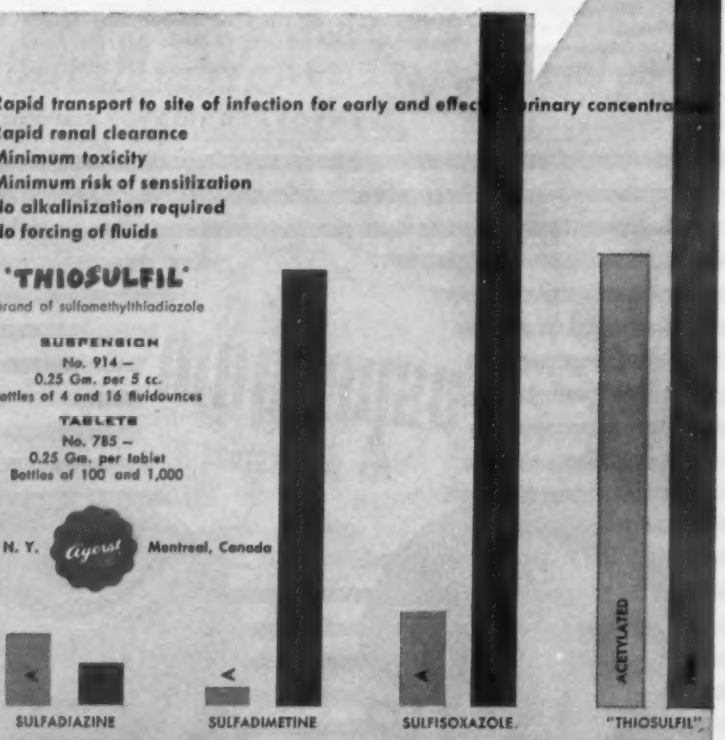

Solubility comparison at pH 6 in human urine at 37° C.

S13

or two of such localized compression, the bleeding area becomes entirely dry.

If desired, the chalazion forceps then may be withdrawn and reintroduced with the ring blade of forceps circling the oozing area; this enclosed circular area is lightly sprayed with the desiccation current through an insulated needle. The forceps are then loosened and withdrawn, and the patient is dismissed with a warning not to blow his nose for a few days or to bend over in heavy lifting.

J. B. H. WARING, M.D.
Wilmington, Ohio

X-Ray for Frozen Shoulder

TO THE EDITORS: Dr. Aladár Farkas presents a very excellent article on frozen shoulder in the February 1, 1954 issue of *Modern Medicine* (p. 103). In this article he states that alleviation by roentgen therapy is not accompanied by return of full active mobility of the patient's shoulder.

In a study of over 435 patients treated during 1945-53, I found frozen shoulders in over 20%. This complication occurs after longstanding cases of bursitis, resulting in adhesions, periarthritis, stiffness, and finally a frozen shoulder. In the latter, the capsule of the shoulder joint thickens and adheres to the bony surface.

In this series of cases, I found that deep x-ray therapy not only alleviated the symptoms but also cleared the complications of frozen shoulder and finally resulted in good motion at the shoulder joint.

LOUIS J. GELBER, M.D.
Rockville Centre, N.Y.

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Questions & Answers

All questions received will be answered by letter directed to the petitioner; questions chosen for publication will appear with the physician's name deleted. Address all inquiries to the Editorial Department, MODERN MEDICINE, *84 South Tenth Street, Minneapolis 3, Minnesota.*

QUESTION: An asymptomatic tumor was found to the right of the hyoid bone in a 50-year-old male. The tumor is 1 in. in diameter and is probably a thyroglossal cyst. Is removal advisable? What other diagnosis is possible?

M.D., Rhode Island

ANSWER: *By Consultant in Surgery.* Masses in the midline of the neck can be thyroglossal cysts which may appear suddenly at any age. However, adenomas of aberrant thyroid tissue should be considered as well as carcinoma in aberrant thyroid tissue or in a presistent thyroglossal duct.

Bronchial cyst may occur in the midline but is usually found in anterior medial triangles of the neck. Tumor in the side of the neck can be papillary carcinoma of the thyroid gland.

A mass in the neck in the midline or the side of the neck may be a metastatic lesion from a malignant lesion in the nasopharynx, oral cavity, salivary glands, or larynx. A careful examination should be made of these structures to find a primary growth. Treatment would be directed to the primary condition as well as to metastases.

Diagnosis of the tumor in this patient's neck will depend on pathologic studies of the excised tissue. The surgical procedure should be based on the diagnosis. A thyroglossal or bronchial cyst should be removed and the persistent embryonic tract should be entirely excised.

If the tumor is malignant, the patient should be prepared for a radical excision of neck structures.

QUESTION: What is the treatment for rattlesnake bite?

M.D., Illinois

ANSWER: *By Consultant in Tropical Medicine.* If the bite is on an extremity, a tourniquet is placed proximal to the bite and tied just tight enough to retard venous blood flow. The tourniquet is released for a few seconds every five or ten minutes to maintain circulation of the limb.

Several incisions are made around the fang marks and strong suction is applied to extract toxins formed at the site.

Antivenin should be given at once. If treatment is begun within two hours, half the dose is injected into the tissue surrounding the bite and the rest is given hypodermically, intramuscularly, or intravenously, depending on the severity of the case. The intravenous route is always used in severe cases. If treat-

ment is delayed more than two hours, local injection is omitted.

All instructions with the package of antivenin should be carefully observed. Adults usually require 1 to 3 injections of 10 cc. each. Double or triple doses should be given to children, because of the relation of the quantity of venom from the snake to the size of the child.

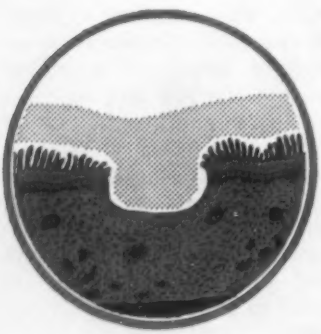
Injections should be made every three hours until recovery is definite. Patients should be watched carefully at least twenty-four hours longer for any return of symptoms. Treatment continues until swelling stops. If swelling progresses, the antivenin should be given every one to two hours.

QUESTION: What is the treatment and prognosis for a 30-year-old woman with myasthenia gravis? The only symptoms are fatigue and occasional spells of motor paralysis of the soft palate lasting an hour or so. All laboratory tests and roentgenograms were negative.

M.D., Iowa

ANSWER: *By Consultant in Neurology.* The best treatment at this time is Prostigmin bromide. The drug comes in 15-mg. tablets. Dosage is regulated according to the patient's need, starting with 1 tablet daily and gradually increasing.

Because this patient's symptoms are slight, only a small amount of medication may be needed. Generally, the prognosis with such moderate involvement is very good.



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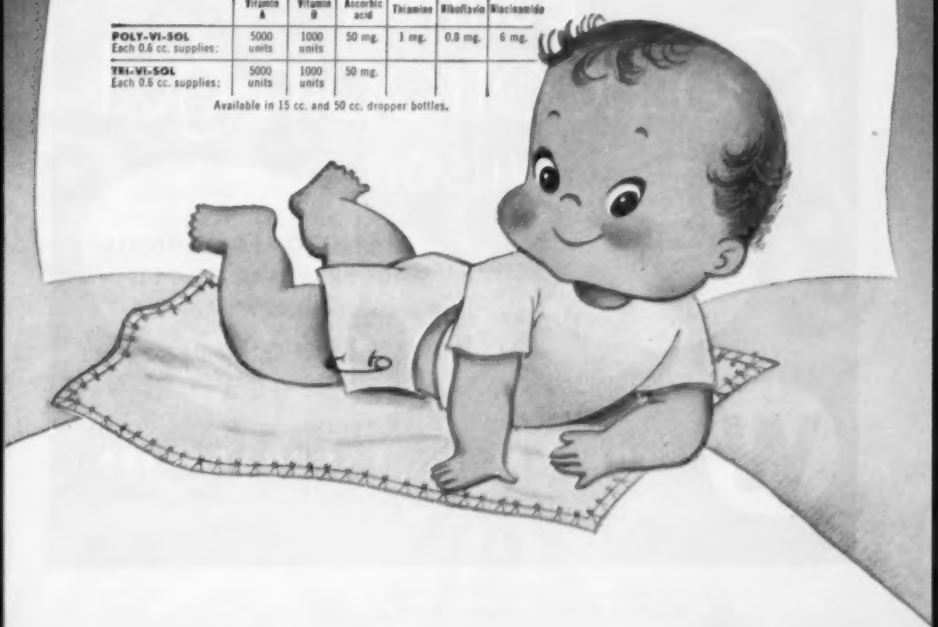

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QUESTION: What can be used to prevent the nasal mucosa from drying and bleeding in high, dry regions?
M.D., New York

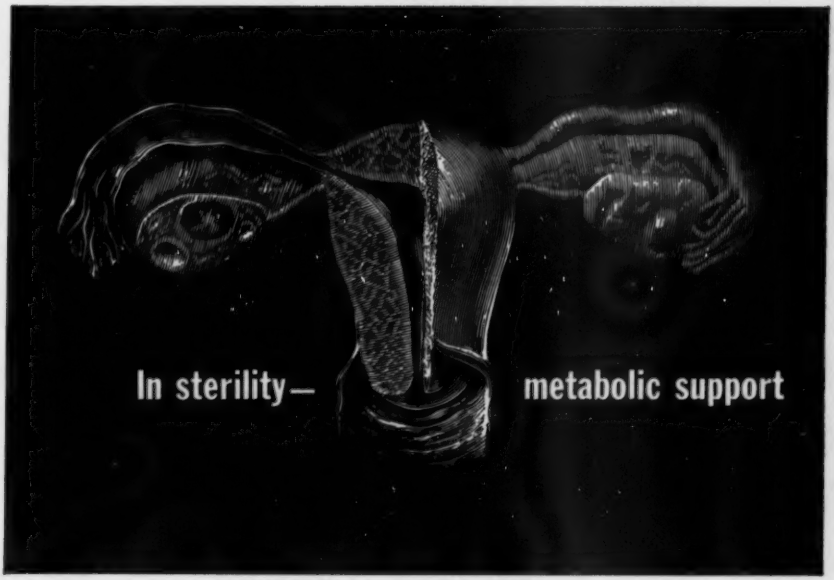
ANSWER: *By Consultant in Rhinology.* Lanolin may be useful for this purpose. For an elderly patient with a tendency to much crusting and extensive trophic changes, Chloretone inhalant is sometimes helpful. This medication contains aromatics and the stimulating effect gives a sense of comfort.

QUESTION: What is the emergency treatment for multiple bee stings?
M.D., Illinois

ANSWER: *By Consultant in Tropical Medicine.* Bee stings seldom cause death except with previous sensitization. However, when extreme systemic reactions occur, the need for prompt treatment cannot be overemphasized.

Epinephrine in doses of 0.6 to 0.8 cc. of a 1:1,000 solution should be injected subcutaneously at once, and the stingers removed. Stingers should not be pulled out but are brushed off in the direction opposite to their entry. If feasible, a tourniquet should be placed above the sting site.

The patient's blood pressure must be determined at short intervals. Nearly normal blood pressure is a sign of adequate epinephrine effect and beginning recovery. Another injection of epinephrine should be



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1. Means, J. H.: The Thyroid and Its Diseases, ed. 2, Philadelphia, J. B. Lippincott Co., 1948.

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given when blood pressure is persistently low or falling. If all else fails, 0.2 to 0.3 cc. of the epinephrine solution diluted to 10 cc. with sterile isotonic saline solution or the patient's own blood may be slowly injected intravenously, with due regard for contraindications and careful observation for cardiac arrhythmias.

The patient should be hospitalized as quickly as possible; intravenous infusions of irradiated human plasma are given. If edema of the glottis threatens, tracheotomy should not be deferred. For asthmatic findings, intravenous aminophylline may be required. Supportive therapy is necessary until the patient remains normal.

QUESTION: How should otitis externa caused by fungous infection be treated?

M.D., Pennslyvania

ANSWER: *By Consultant in Otology.* Therapy depends on extent of the disease and the type of fungus causing the disorder. For ordinary purposes 2% salicylic acid in alcohol may be useful.

QUESTION: What is a good solution for painting a simple red sore throat?

M.D., Louisiana

ANSWER: *By Consultant in Laryngology.* Throat paints have relatively little value because of the short duration of activity; 2% silver nitrate is as useful as anything.

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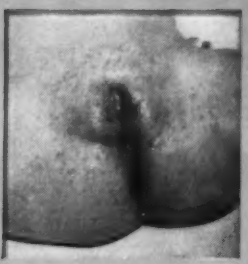

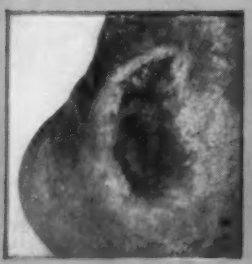

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plant, allergic,
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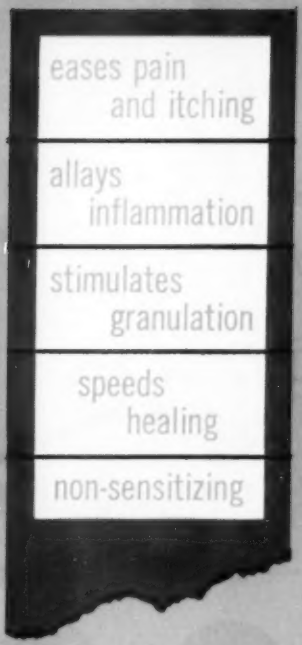

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1. Kline, P. R., and Caldwell, A.: New York St. J. M. May 1, 1952.
2. Combes, F. C., and Zuckerman, R.: J. Invest. Dermat. 16:379, 1951.
3. Kline, P. R.: Current News in Derm. & Syph., May 1952.

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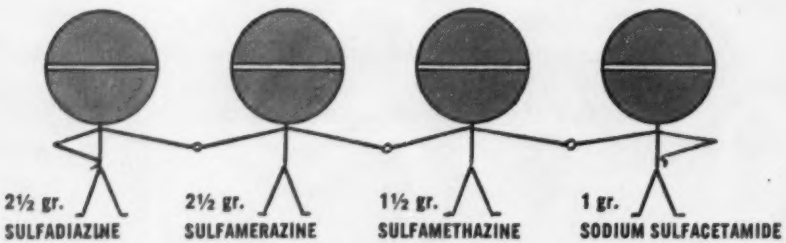

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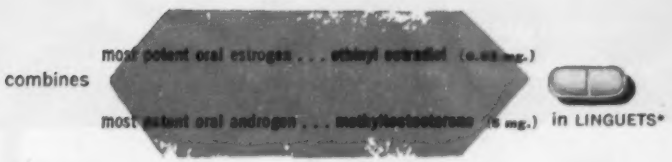

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1. Bradley, J. E., et al.: J. Pediat. 38:41, 1951; Idem: Amer. Acad. Pediat., meeting Oct. 16, 1951.

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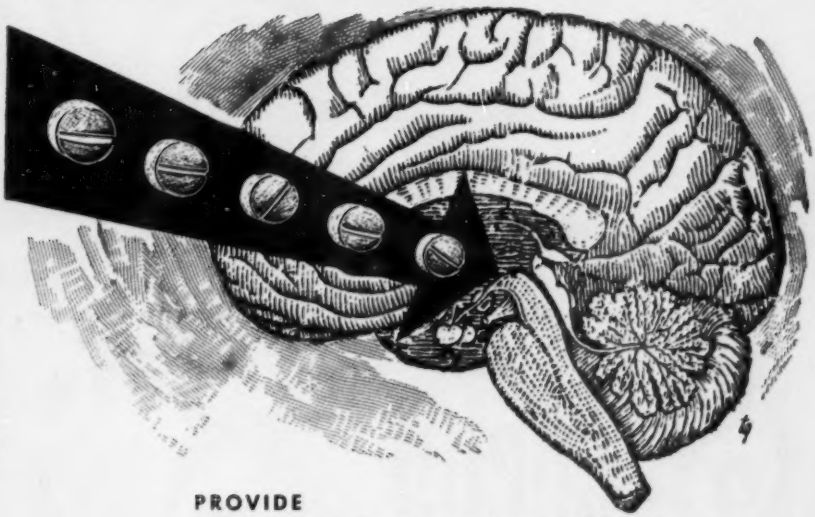

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48

Forensic Medicine

ARTHUR L. H. STREET, LL.B.

Prepared especially for Modern Medicine

PROBLEM: A doctor tentatively diagnosed a transient patient's ailment as syphilis and advised him to leave the hotel where he was staying to avoid infecting others. When the patient remained, the doctor told the hotelkeeper that he thought the patient had a contagious disease. The hotelkeeper forced the transient to leave. Was the doctor liable on the ground that he betrayed a professional secret?

COURT'S ANSWER: No.

The Nebraska Supreme Court decided: The statute forbidding doctors to reveal professional secrets as witnesses did not apply in this case because the doctor had not disclosed a secret that was detrimental to the patient. A patient cannot expect a disease that is contagious to be kept a secret from those to whom it can be transmitted. A patient with contagious disease is subject to disclosure when he submits to an examination.

The court added that a doctor's immunity from liability must rest upon diagnosis made with reasonable care and proof that the disclosure was made in good faith to one having a right to be informed (177 N.W. 831).

PROBLEM: A New York statute authorized a state board to revoke, subject to judicial review, a physician's license on ground of insanity. Was the statute unconstitutional because sanity was determined by a nonjudicial board?

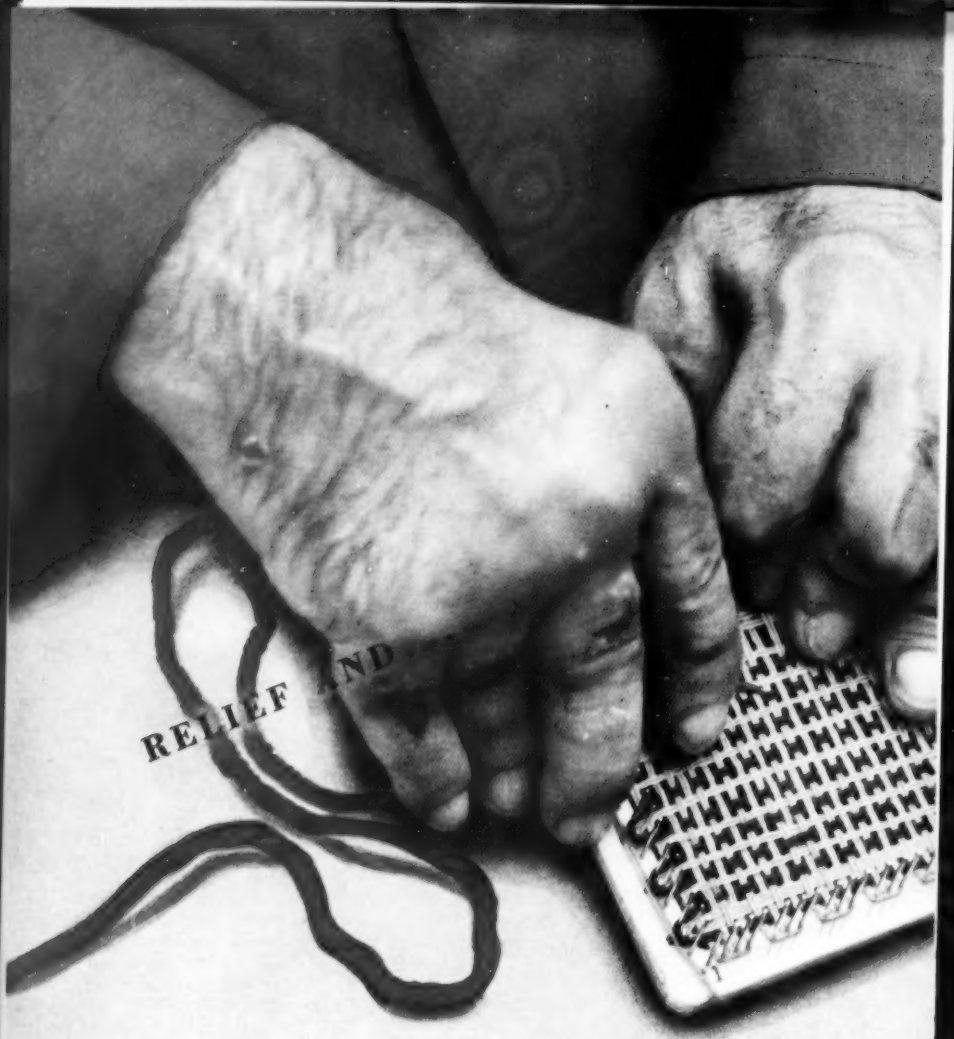
COURT'S ANSWER: No.

The Appellate Division of the New York Supreme Court, Third Department, reached the decision principally on the ground that the effect of a board determination of insanity is limited to right to practice medicine in the state, without any effect upon a physician's personal and property rights (125 N.Y. Supp. 2d 699).

PROBLEM: A visitor was injured while attending a circus, and a doctor was called by the circus company's agents to attend the injured man. The doctor agreed that his fee would be $200 if paid in advance or when his services were completed. However, this was not done and the doctor was asked to bill an associated company, which paid $100 on the $200 bill. When the doctor sued the first company, whose agents had retained him, was he entitled to collect $612.50 as the reasonable value of his services, less the $100 that the second company paid?

COURT'S ANSWER: Yes.

The Appellate Court of Indiana reasoned that, although the doctor had performed the services for a fee fixed in advance, he was not deprived of the right to collect a fair fee larger than the amount originally agreed upon. That right was not lost by billing the second company for $200 (158 N.E. 626).



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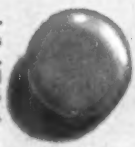

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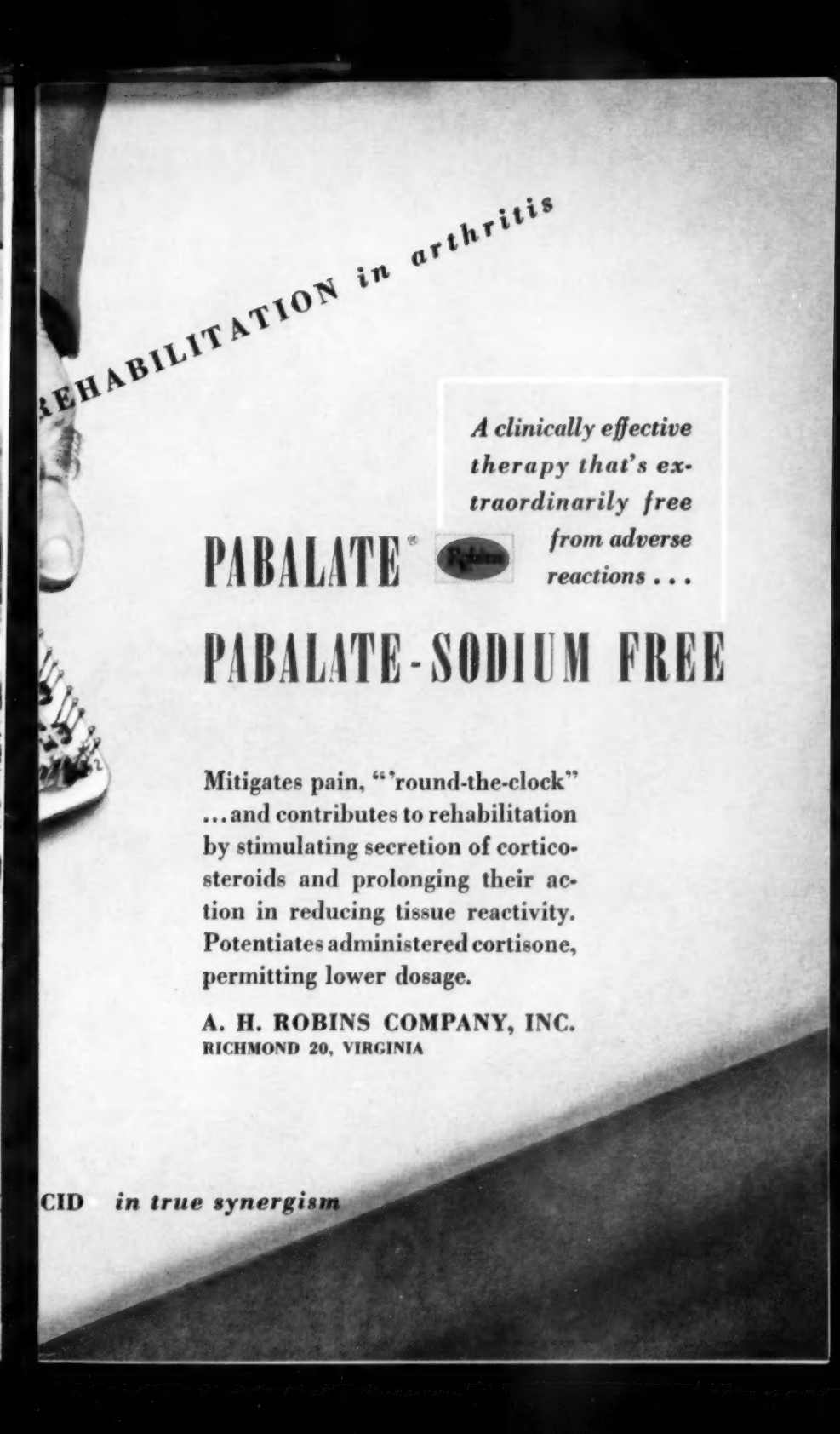
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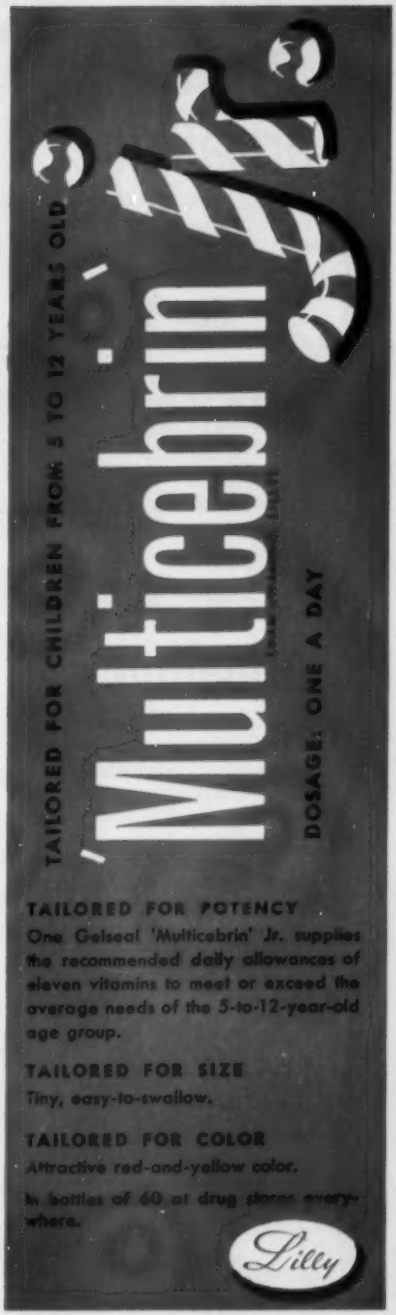
PROBLEM: In California, right to sue for malpractice expires one year after the right arose, but if the doctor fraudulently concealed the neglect which gave rise to a damage claim, the one year does not begin until the patient knows or ought to know the facts. February 25, 1949, a patient was hospitalized for a bullet wound in the leg above the knee. During nine days' treatment, Drs. S, M, and F discovered that the bullet had damaged the popliteal artery and severed the sciatic nerve. They removed the bullet and the damaged parts of the artery but did not repair the artery or nerve. They administered blood transfusions, sedatives, and penicillin and dressed the leg in ice packs. Dr. K attended the patient for twenty-three days and, not knowing there was infection, failed to have roentgenograms made. Dr. G then treated the injury for two weeks, making incisions in the calf of the leg and removing blood clots and pus, but he also neglected to have films made or repair the injured artery and nerve. Drs. S, M, and F resumed charge of the patient and treated him until September 2, 1949. On that day, Dr. G advised the patient that the injury necessitated amputation of the leg. The patient consented and the leg was removed September 22, 1949. Suit against all the doctors was begun Sepember 12, 1950. Was it valid?

COURT'S ANSWER: No.

The California District Court of Appeal stated that the year within which suit could be brought commenced to run when Dr. G told the patient that the leg would never be usable and should be amputated, although it was not until about six weeks before the suit was brought that the patient learned through an official workmen's compensation report that the bullet had damaged the popliteal artery and that osteitis, periosteitis, and osteomyelitis had set in as early as May 5, 1949.

The court concluded that, because the patient was aware more than one year before suit was start-



ed of facts which should have prompted him to make an investigation to disclose the true nature of the injury, he was charged with constructive knowledge of any facts that pointed to malpractice (259 Pac. 2d 494).

PROBLEM: A physician assisted a surgeon in an advisory capacity in numerous operations at a hospital; both were members of the staff. It was understood that the physician would be paid by the surgeon but there was no agreement as to the amount. In a suit to collect, the physician testified that $50 was a reasonable fee for his services in each case. There was no other evidence to show what was a reasonable charge. Did the trial judge err in allowing $35 as a fee for each case?

COURT'S ANSWER: No.

The Supreme Court of Rhode Island decided: Every physician has a right to testify to what he considers a reasonable fee for his services, although he does not know what other doctors may charge. However, the court is not bound to accept the testimony that the fee is reasonable, although no witness testifies to the contrary. The court may consider that self-interest prompts a doctor to exaggerate the value of his services. If there had been a customary fee for such services in the community, that fact would have been considered (144 Atl. 146).

¶ The important point to be gleaned from this case is that a doctor should exact an explicit agreement in advance as to the amount of his fee if there is any likelihood that the patient may challenge the reasonableness of the charge. Failure to agree on a fee automatically limits a doctor to a fee that a court may find reasonable.—A.L.H.S.

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Magnesium	2 mg.
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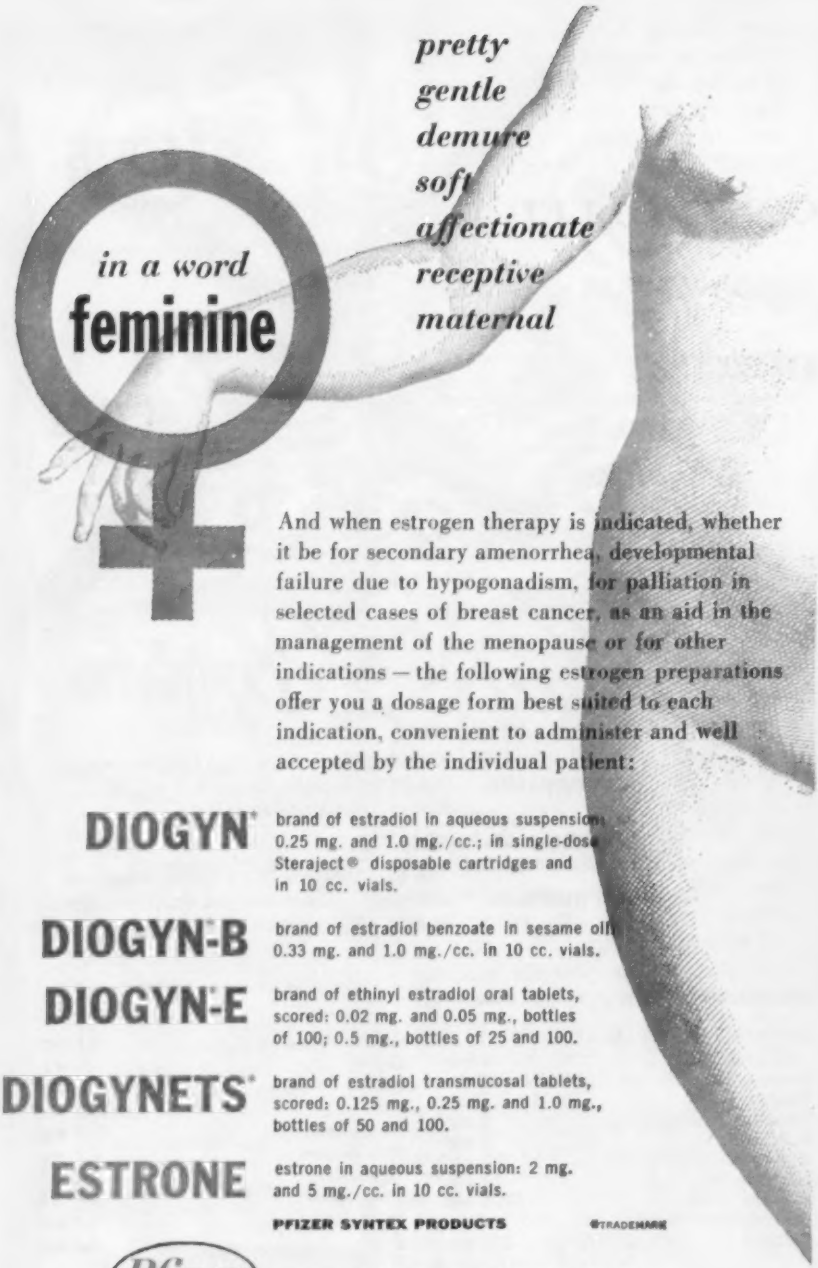

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PROBLEM: A death certificate stated suicide resulting from gas poisoning. There being no claim that the certificate was fraudulent, could decedent's widow maintain suit to change the statement to show that there was no suicide on the ground that the medical examiner had erred in his conclusion?

COURT'S ANSWER: No.

The New Jersey Superior Court, Chancery Division, recognized that a court has power to relieve one against the consequences of mistake. However, in this case there was no legal mistake, although an exploration of all facts might show that the examiner's conclusion was erroneous.

In the absence of fraud, a court could not amend a death certificate to show death from a cause other than that stated. However, should the cause of death be a vital fact, for example, in a suit to collect insurance not covering death by suicide, the examiner's death certificate would not necessarily be conclusive (101 Atl. 2d 98).

PROBLEM: A beneficiary certificate specified that benefits would not be paid for death caused by intoxication. Did the provision apply to a death caused by intoxicants taken under advice of a physician?

COURT'S ANSWER: Yes.

So decided the Tennessee Supreme Court (104 Tenn. 623, 58 S.W. 241).

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Washington LETTER

Expansion of Hospital Construction Plan Favored

The first few months of Congress have shown that certainly one, and probably several, pieces of important medical legislation will be enacted before the members close shop in midsummer and go home to start electioneering for the fall.

From the start of the session in January legislation to vastly expand the Hill-Burton hospital construction program has been in high favor in both Senate and House. The idea is to make H-B grants available for almost every type of health facility, the only requirement being that the project is nonprofit and is for use of the entire community. Enactment of the H-B amendment would stimulate construction of diagnostic and treatment clinics, rehabilitation centers, nursing homes, and hospitals for the chronically ill.

Under present law, the money is restricted to "complete hospitals." This rules out assistance to nursing homes and such structures as clinic buildings, unless they are a part of an institution qualifying under state law as a hospital. Without any change in the law, money could be granted to chronic disease hospitals, but the seven-year experience of the H-B act is evidence that only in rare cases will communities sponsor chronic disease hospitals, which are never self-supporting and generally are financial burdens.

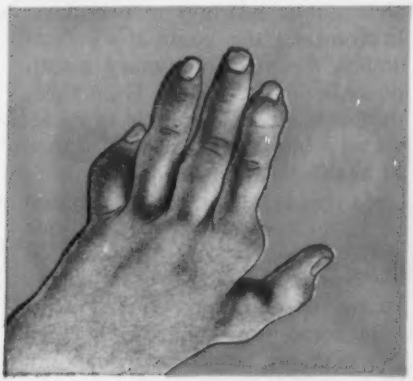
The new law would set up a fund of $182 million to be spent over a period of three years. One-third of the first year's $60 million would be earmarked for diagnostic and treatment centers and the same amount for chronic disease hospitals. One-sixth would be set aside for rehabilitation facilities, and a like amount would be delegated for nursing homes.

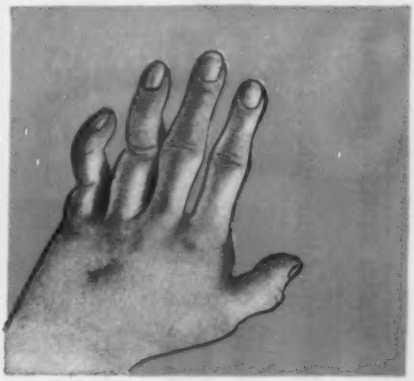
In the light of developing conditions, later congresses can adjust this formula. For example, if local communities and states still shy away from building chronic disease hospitals, more funds may be set aside for nursing homes.

Probably not since before World War II has any health legislation received the kind of all-out support on Capitol Hill that awaited the H-B expansion bill. The original bill, although nonpartisan, became bogged down in complications and arguments, until the late Sen. Taft produced his formula for restricting the role of the federal government.

The expansion program had so much support that the House Interstate and Foreign Commerce Com-

which is rheumatoid arthritis? — which is gouty arthritis?





You won't always find gout in the great toe . . . in 40 per cent of gout cases, the first attacks occur in a finger, wrist, elbow, or knee.[1] A quick way to distinguish between the rheumatoid and gouty forms of arthritis is to prescribe

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Colchicine	0.25 mg.	(1/250 gr.)

In enteric-coated, capsule-shaped tablets.

DOSAGE: 2 doses of 3 *Entabs* each, two hours apart, then 2 *Entabs* every two or three hours for eight to fourteen doses as required. Dosage should be given to full effect.

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SAMPLES AND LITERATURE ON REQUEST

1. Graham, W.: Nova Scotia M. Bull. 32:65, 1953.

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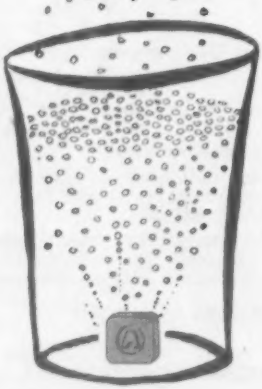

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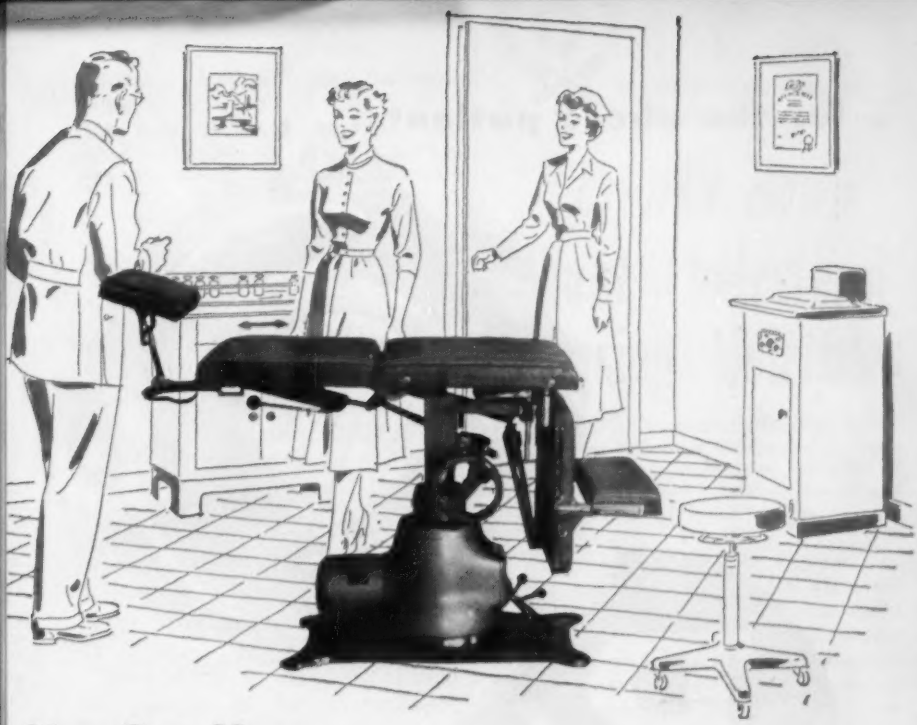
mittee under the chairmanship of Rep. Wolverton was able to complete public hearings in two days. In contrast, the committee's fact-finding study of voluntary health plans lasted for weeks. Even then, the committee had trouble in agreeing on a bill for federal reinsurance of health plans.

At the H-B hearings, opposition to the idea came from only one source—the American Association of Nursing Homes, a relatively young organization whose members could not share in the proposed grants because they are not nonprofit institutions. The association's spokesman struck a logical note: Why should an administration dedicated to private enterprise go out of its way to set up "unfair competition" to private enterprise in one particular area? However, the protest made no impression on the committee.

Secretary Hobby of the Department of Health, Education, and Welfare reviewed the success of the H-B program, but emphasized that the need now is for a more balanced construction plan. Despite progress in building complete hospitals, there is great need for other health facilities. Mrs. Hobby told the committee:

> This approach has a particularly direct and forceful appeal. The hospital, the clinic, and the public health center are among the most highly valued of our community facilities. We have learned that the best in modern medicine is available to us and to our families only when the doctor has at his command the specialized equipment, resources, and staff which are brought together in hospital and related facilities.

Speaking for the American Medical Association, the AMA secretary and general manager, Dr.



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George F. Lull, informed the committee:

It does not appear that the proposed expansion of the Hill-Burton program constitutes any fundamental change in the principles embodied in the existing law. I should like to urge, on behalf of the American Medical Association, that the legislation be favorably reported by your committee.

Among other groups supporting the bill were the American Federation of Labor, the National Rehabilitation Association, and the American Association for the Blind.

Even before the House had completed action on this legislation, the Senate committee scheduled hearings on a companion bill. The legislation obviously had clear sailing, barring some domestic or international crisis that would take priority.

Also given an excellent chance for passage is the Eisenhower-Hobby legislation to increase the number of disabled persons rehabilitated each year through medical treatment and job training and placement.

Shortly after Mr. Wolverton's House committee finished work on the H-B expansion, hearings were started on the rehabilitation plan. While no important opposition is in sight, this plan may not have enough support for enactment.

It is estimated that if Congress approves this program the number of rehabilitated could be increased over several years from the current 60,000 annually to about 200,000. Furthermore, the administration expects that states can be induced to increase contributions to the point where eventually funds will be matched dollar for dollar with the federal government appropriations.

(Continued on page 62)

New Office-Administered Heparin-Lipotropic Therapy

Breaks down Giant Cholesterol-bearing Molecules

Wherever Atherosclerotic Activity Exists: Advanced Peripheral Atherosclerosis • Angina Pectoris • Myocardial Infarction • Diabetes Mellitus • Related Kidney and Liver Disease • Coronary Vascular Disease Obesity

Recent investigations by Gofman (1) and others strongly indicate that certain "giant" cholesterol-bearing molecules are the causative factor in atherosclerosis and other coronary diseases. It is clear that these lipoproteins are of greater diagnostic significance than a high level of cholesterol, per se.

Tests on the blood of patients treated with Hep-Nine B (heparin therapy enhanced by lipotropics and B vitamins) revealed marked reduction in the level of these giant molecules and reorientation toward a more normal pattern.

(1) Gofman, J. W., et al Circulation 4:666, (1951). Modern Med. (June 15, '53 pps. 119-140)

Each cc. of Hep-Nine B contains:

Heparin Sodium (2500 units).. 25 mg.
Choline Chloride ....100 mg.
Vitamin B_{12} ..15 mcg.
Folic Acid ... 2 mg.
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For Intramuscular Use Only 1 or 2 cc. once or twice weekly.
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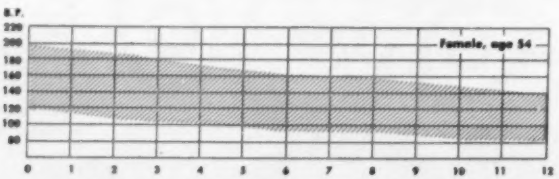
Rautensin produces the typical hypotensive, sedative, and bradycrotic effects characteristic of this important new drug. Each tablet contains 2 mg. of the alseroxylon fraction, a highly purified alkaloidal extract entirely free of inert material. The alseroxylon fraction is tested in dogs for its ability to lower blood pressure, produce sedation, slow the pulse.

The initial dose of Rautensin is 2 tablets (4 mg.) daily for 30 days. Thereafter, the intake is dropped to 1 tablet (2 mg.) daily. Side actions are rare and there are no known contraindications.



Weeks of therapy. Rautensin, 4 mg. daily. Marked subjective improvement.

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Rauwolfia serpentina
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For the patient with chronic, severe, or fixed hypertension

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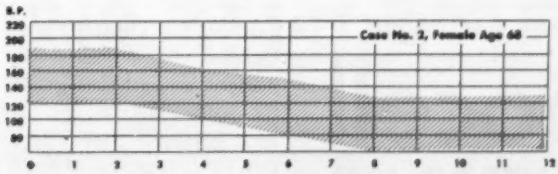
Rauvera
Rauwolfia Serpentina and Veratrum Viride Alkaloids

Each Rauvera tablet combines 1 mg. of the alseroxylon fraction of Rauwolfia serpentina and 3 mg. of alkavervir, a highly purified alkaloidal extract of Veratrum viride. The potent hypotensive action of veratrum is thus superimposed on the desirable influence of Rauwolfia. Rauvera leads to a substantial reduction in blood pressure and marked subjective improvement, hence produces excellent results in chronic, severe, and fixed hypertension.

The average dose of Rauvera is 1 tablet 3 times daily, after meals, at intervals of no less than 4 hours.



Weeks of therapy. Rauvera, 4 tablets daily. Note blood pressure response.

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- Metered Medication without enteric coating
- No overstimulation or overdelay
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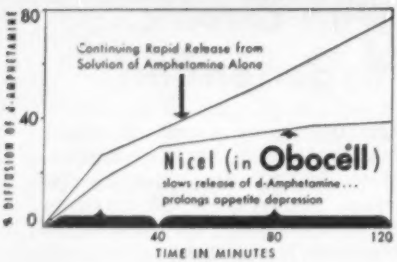

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Washington Notes

¶The Manion Commission to investigate relationships between federal, state, and local governments is hopelessly behind schedule. It was mid-February before the commission got started on its investigation of grants, and its final report was due March 1. The commission has hired private research experts to investigate grant programs in five states, but their reports aren't due until mid-May.

¶The Hoover Commission to investigate federal agencies is much farther along, although its deadline doesn't come up until 1955. Undoubtedly, the second Hoover Report will have as powerful an impact on government as did the first.

¶What influence, if any, the Manion report will have is problematic. Congress already is at work reorganizing the grants-in-aid programs, without waiting on the commission for advice.

¶In its budgetary reports, World Health Organization, like some other UN agencies, tries to shame large countries into jacking up their contributions by elaborating on the per capita contributions of a few selected small ones. For example, New Zealand is giving 7 cents per person to WHO, whereas the United States is giving only 6 cents per person. But expressed in dollars, New Zealand's share is $140,000, or less than ¼% of the $9,814,333 paid by the United States.

¶Legislation to do away with the present categorical grants to states for studies of cancer and tuberculosis is moving steadily ahead. Under the proposed change the states could spend the money as they saw fit, subject to guarantees that state spending would not be reduced.

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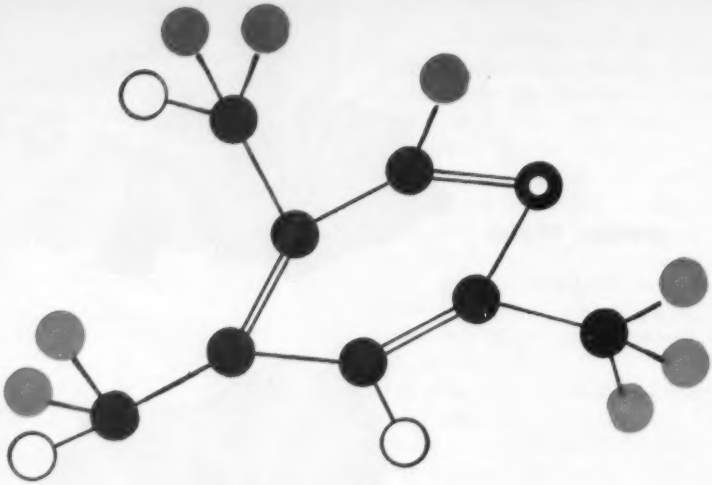

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MODERN MEDICINE
THE JOURNAL OF DIAGNOSIS AND TREATMENT

THE EDITOR'S PAGE

by WALTER C. ALVAREZ, *Editor-in-Chief*

Diagnosing by Smell

Old-time physicians used to diagnose typhoid fever and smallpox with the help of their noses. Recently, Dr. Charles Engel of Sydney, Australia, *(M. J. Australia* 2:254-258, 1953) wrote interestingly on this subject. He spoke of a nurse who could tell by the odor of the breath when a patient was approaching death. Doubtless many doctors know this foul odor which may come a few days before death and which probably indicates a change in the chemistry of some body cells of the dying. Perhaps the liver is failing to detoxicate certain chemicals. I suspect that the patient notices this change himself, and thus knows that he is about to die. His dog may notice it and may be much distressed; the animal may even leave his master as a result.

When I was a young doctor in charge of smallpox prevention in San Francisco, the old nurse who ran the pesthouse could always settle a puzzling diagnosis for me by smelling the patient.

The wise doctor will quickly recognize the breath of many a diabetic person. I can remember persons with defective kidney function who had urinous breaths. It is said that persons with serious destruction of the liver have characteristic bad breaths. Some of the foulest breaths I have ever smelled were those of men being treated for syphilis with mercury or arsenic.

Some foul breaths with a fecal odor are produced by great worry or by sexual excitement. As Burrill Crohn showed years ago, bad breath can be produced by eating pork. Men who smoke Turkish tobacco will often have a powerful and unpleasant odor coming particularly from around the external genitals.

The wise physician can recognize the sweetish bad breath due to carious teeth or pyorrhea or the odor due to the eating of garlic. The foul odor of ozena is easily recognizable. A person with an abscess of the lung or severe bronchiectasis can have a foul breath. Occasionally, a person with an ulcerating carcinoma of the cardia can taste and smell it, or his physician can smell it. Miss "Tom" Sawyer who, during thirty years at the Mayo Clinic, pumped many thousands of stomachs, often correctly diagnosed carcinoma of the fundus simply by smelling the tube as she pulled it out.

A few persons have a peculiar odor recognizable by the spouse the day before they get a sick headache. A person who has recently had a hemorrhage from the stomach may have a recognizable odor of blood on his breath, apparently caused by absorption of the material from the bowel. A person with intestinal obstruction can have a bad breath due to the regurgitation of fecal contents up into the throat. A patient with rheumatic fever often has a sour smell. Persons who are very anxious can develop goaty underarm odors.

Some persons with poor nervous heredity have displeasing body odors. Distressing, also, is the mousy body odor of the man with a bad ichthyosis or dryness of the skin.

The Migrainous Scotoma

The fact that a migrainous scotoma can be shifted from side to side or up and down by appropriate movements of the eyes would at first appear to indicate that the phenomenon arises in the retinas, but good ophthalmologists tell me that it does not prove anything because we human beings are so used to seeing images move when we move our eyes.

To settle all doubts about the matter, I would like to hear of a migrainous person who used to see typical scotomas with a zigzag line, who then went blind *with the loss of both retinas or both optic nerves,* and who still sees his old migrainous scotomas.

A Slip of the Pen

In my comments on "Something for a Stroke" *(Modern Medicine,* Feb. 15, 1954, p. 76), I suggested hypertonic salt injections. I should have said injections of hypertonic glucose.

Special Article

Electroshock Therapy

H. E. LEHMANN, M.D.*
McGill University, Montreal

THE last two decades have brought dramatic progress in the treatment of psychoses and psychoneuroses. The passive, often discouraged attitude of the psychiatrist, whose role in the not so distant past was often that of an attentive observer, has changed to one of hopefulness and energetic activity in the therapeutic field.

Insulin coma treatment achieves good remission rates in early schizophrenia. New pharmacologic agents with controllable inhibiting and disinhibiting effects on the central nervous system have shown great usefulness in the management of severe emotional maladjustment. Recently developed group therapy technics are a partial solution to the ever-growing problem of patients whose major difficulties lie in the field of social adjustment.

Vitamins and endocrine preparations are giving excellent therapeutic results in mental disorders associated with metabolic disturbances which previously could not be attacked successfully. Last, but by no means least, electroconvulsive therapy has proved its unsurpassed effectiveness against the melancholias, the major emotional depressions which probably belong among the most tormenting diseases known to mankind.

Until the advent of convulsive shock therapy, we had no effective treatment for a patient in a depressive state. Only fifteen years ago we could do very little to shorten the course of a depression and almost nothing to give the depressed patient immediate relief. Sedatives, rest, and the hope for an early spontaneous recovery were all we could suggest.

Today we can promise a deeply depressed patient and his anxious relatives appreciable relief from his symptoms in a week's time. We can usually terminate a depressive attack of a manic-depressive patient in two or three weeks instead of waiting for a slow and painful self-recovery in three to six months.

The most spectacular change as to duration of illness and over-all prognosis has occurred with involutional melancholia, the potentially crippling endogenous depression that strikes a considerable number of women and men at the climacterium. Before convulsive therapy

*Clinical Director, Verdun Protestant Hospital; Assistant Professor of Psychiatry, McGill University, Montreal.

from 10 to 30% of the patients died through suicide or intercurrent diseases. The probability of recovery for such a patient was only about 50%, while it is now over 80%. For those who did not remain chronically ill the depression would last an average of twenty months. Most of these patients now recover completely within one or two months and the mortality rate among them today is negligible. The tremendous saving in time, suffering, working capacity, and human lives that we owe to this therapy requires no further comment.

HISTORICAL NOTES

The first report on successful convulsive treatment of mental disease dates back to 1785 when a physician in the *London Medical Journal* described the cure of a patient in manic excitement after the administration of a large dose of camphor which resulted in a convulsion. This observation was apparently not followed up by others, although occasional reports appeared in the literature to indicate that incidental convulsions in the course of a mental disorder may produce beneficial effects. The old observation that intercurrent febrile disease may favorably influence the course of a mental illness eventually led Wagner-Jauregg to the discovery of the malaria treatment for general paresis in 1917.

In 1933, Sakel in Vienna began to experiment with insulin coma treatment of schizophrenic patients and soon observed that those who had convulsions during the hypoglycemic state often improved more rapidly. Meduna, working in Budapest, was aware of these observations. He also had a theory that there was a "biologic antagonism" between schizophrenia and epilepsy. His goal was to find a reliable and safe method to induce convulsions in schizophrenic patients. At first he employed large intramuscular doses of camphor in oil but soon changed to intravenous Metrazol. This method proved to be simple, reliable, and safe. Meduna published his first results with this new therapy for schizophrenic patients in 1935 and thus became the father of convulsive shock treatment of psychoses.

Although the results with convulsive treatment for schizophrenia were good, those with insulin coma treatment were better. However, it was soon discovered that convulsive shock therapy brought dramatic improvement in the so-called affective mental disorders, i.e., in depressive and manic states.

In 1938 in Italy, Bini and Cerletti, a psychiatrist and a physiologist, tried an electric shock method for human beings with excellent results. Electroconvulsive therapy was soon adopted all over the world because it did not produce any unpleasant sensations in the patient. One great disadvantage of the Metrazol treatment was the anxiety produced in the patient during the short period between the beginning of the injection and the actual convulsion when the patient lost consciousness. Electroconvulsive treatment is actually less painful than a hypodermic injection since the patient loses consciousness when the current is ap-

plied to the temples, before the brain can register any sensations.

In the last ten years many modifications have been proposed, some employing unidirectional instead of the standard 60-cycle alternating current, others using lower currents than the ordinary 100 to 120 volts and 300 to 700 M.A. and for longer times than the usual 0.3 to 0.7 seconds. Still others consist in the application of nonconvulsive currents which do not lead to unconsciousness and which are painful and require anesthesia. Electronarcosis is a method of treatment by means of which the patient is maintained in a state of unconsciousness for several minutes without having a full convulsion.

Various advantages have been claimed for these modifications, but they are still in the experimental stage. Our discussion is confined to the standard electroconvulsive therapy which is most widely used today, is simpler than the other methods, and probably gives at least equally good results at this stage.

TECHNIC

The treatment is an extremely simple procedure. The patient is fasting. Premedication is employed in most cases and consists in intravenous administration of either a barbiturate such as Sodium Amytal or of a curare preparation or synthetic curarizing agent immediately before the electric shock. The most frequently employed drugs of this type are Gallamine triethiodide (Flaxedil) and succinylcholine dichloride (Anectine). Anectine has the advantage of having a shorter effect than curare and Flaxedil but facilities for intubation must always be immediately available when this drug is used because no antidote is known.

The purpose of premedication is to suppress muscular contractions sufficiently during the convulsion so that there is no danger of fracture. The curarizing drugs can achieve this without rendering the patient unconscious, while the intravenous barbiturate is given to produce unconsciousness before the treatment. Intravenous narcosis and curarizing drugs are often given simultaneously. If the patient is anxious, it is, of course, an advantage to use sedation before the treatment. Many patients, however, experience little apprehension while being prepared for the treatment. Atropine is sometimes used as premedication to reduce secretion of saliva and to prevent cardiac irregularities which may otherwise occur in predisposed patients.

Hairpins and other metal objects are taken from the patient's head and dentures also are removed. A rubber mouth gag is inserted between the jaws. The patient lies on a bed or couch. A contact paste is applied to the temples, and 2 electrodes, similar to those used in electrocardiography, are attached to the temples by a rubber band.

The controls in the electric shock apparatus, a small box on a table behind the patient, are set to limit the current and the time of application as desired. The electrodes are connected with the apparatus and the current is switched on, usually for less than a second. The

patient must not be grounded since the same current which passes through the brain without doing any damage could cause fatal ventricular fibrillation by passing through the heart.

THE SEIZURE

An electrically induced grand mal seizure resembles an epileptic fit in every respect except for a briefer duration. The patient loses consciousness immediately. Within a few seconds the tonic phase begins and lasts for about ten seconds. This is followed by the clonic phase of about twenty-five seconds. At the end of the clonic phase the patient is relaxed, apneic, and cyanotic. Respiratory arrest lasts two to ten seconds. During the seizure, 1 or 2 assisting nurses prevent jackknifing of the body and abduction of the extremities without, however, immobilizing the patient completely.

After the seizure, the patient is turned on his side to drain saliva and mucus from the upper respiratory tract. Oxygen and Prostigmine may be administered if indicated. The patient remains comatose and immobile for about one minute. The brain, subcortical structures as well as the cortex, is exhausted.

Respirations, at first stertorous, are resumed a few seconds after cessation of all convulsive movements. The oxygen debt incurred during the convulsion is rapidly made up, cyanosis disappears, and the patient begins to move about restlessly. He is now taken to the recovery room where he remains under a nurse's continuous observation until full consciousness is recovered. He is usually able to respond within ten minutes, but may remain greatly confused up to half an hour.

Many patients complain of headache after a treatment. This is easily relieved with 10 gr. of acetylsalicylic acid. Within an hour the patient feels well enough to be sent home in the company of a responsible person, if the treatment has been given on an ambulatory basis. The patient may, however, remain slightly confused for the next twenty-four hours. It is, therefore, not permissible for patients who are receiving electroshock therapy to undertake any task requiring responsibility. They should not drive an automobile.

EFFECTS OF ELECTROSHOCK

Electrically induced convulsions cause a tremendous upheaval of the whole organism. A number of biochemical and physiologic changes take place during and after the seizure. Immediately after the convulsion the patient's condition is characterized by hypoxia, acapnia, and acidosis, the latter mainly due to increased lactic acid in the blood. These and most of the other immediate alterations are corrected within minutes as the body quickly reestablishes homeostatic equilibrium.

The brain, greatly excited by the shock, responds with electric paroxysms of fast, high-voltage activity. With greatly increased venous pressure, the cerebrospinal fluid pressure and intracranial pressure are increased during the seizure. After a

number of treatments, endocrine changes occur which suggest heightened activity of the adrenals. There is increased permeability of the blood-brain barrier, and electrolytes and nuclear breakdown products increase in the cerebrospinal fluid. The patients gain weight owing to augmented water retention in the tissues as well as to improved nutrition.

After 3 or 4 treatments the first pronounced beneficial effects can usually be observed in depressed patients. Symptoms subside, as a rule, in the following order:

1] Agitation
2] Insomnia
3] Refusal of food
4] Suicidal tendencies
5] Psychomotor retardation
6] Depressed affect

After 6 to 8 treatments, slow waves appear in the electroencephalogram and about that time memory disturbance of the Korsakoff type develops. The patient often feels quite well by then but his memory for recent events is greatly impaired. He may not remember that he received the visit of a relative the previous day although he conversed with him for an hour in an animated and intelligent manner. He will have forgotten the telephone numbers of his friends and not remember how many suits he possesses. He can enjoy reading a book which he read only a month ago without recalling that he ever saw it before. He would, of course, be greatly embarrassed were he to return to his work at this stage since he might not be familiar with the simplest routines.

This memory disturbance disappears rapidly after termination of electroshock therapy, and after one or two months most of the forgotten material is recalled. Within the same period the slow waves disappear and the electroencephalogram returns to normal. The memory impairment with electroshock treatment has been the subject of many investigations, and the theory is now held that the amnesia after electroshock represents a disorganization rather than a destruction of mental material. It has been demonstrated that electrically induced convulsions in animals tend to abolish the most recently acquired conditioned responses and to reestablish older ones.

SIDE EFFECTS

Like most other therapies, electroconvulsive shock therapy, which is usually referred to as EST or ECT, has disadvantages. One of the most disturbing is the loss of memory that invariably is observed after more than 10 treatments. The patient's memory is usually restored within a month or two, but he can be severely handicapped in his work during this time even though he may feel well in all other respects. Relatives and the patient himself may develop considerable anxiety and believe that the patient is actually getting worse if one omits to explain to them that the amnestic disturbance is a side effect of the treatment and an indication that it is taking effect and that this symptom will completely disappear within a few weeks after the last treatment.

Some material, however, may

never be recalled and one might, therefore, hesitate occasionally to use EST for a patient whose work is of an intellectual nature requiring a scrupulously exact memory. The confusion of the patient which may last for hours immediately after an EST and the memory disturbance and electroencephalographic abnormalities which may last for months point in the direction of some reversible brain damage that may become permanent through the cumulative effects of too many treatments or if patients are aged or have otherwise reduced cerebral reserves. However, no convincing experimental evidence in animals has been presented that electrically induced convulsions produce cellular or vascular damage in the brain.

A certain proportion of patients given EST develop a new set of symptoms typical of a superimposed organic syndrome which is characterized by excitement, confusion, aggression, delusions, and hallucinations. This syndrome is usually self-limited but may constitute a real complication. Many patients receiving EST become temporarily euphoric and exhibit impaired judgment for a few days after their depression has abated.

The convulsion is a considerable stress to the organism. Although one is amazed to see how well it is tolerated even by aged patients, sometimes in their 70's, the patient's general condition must be given careful consideration before EST is administered. Hypertension, cardiac disease, active tuberculosis, and organic brain disease, at one time considered absolute contraindications to EST, are now only relative ones. Only acute uncompensated cardiac failure and a state of shock may be considered absolute contraindications.

Other possible complications are fractures from violent muscle pull during the convulsion. Patients with osteoporosis or otherwise increased fragility of bones are particularly exposed to this risk. Compression fractures of the lower thoracic vertebrae are the most frequent. They usually remain asymptomatic and may be missed unless lateral radiograms of the spine are made. They very seldom require surgical treatment. Other fractures may occur—of the scapula, humerus, or femur.

Premedication and modification of the standard treatment are relied upon to diminish the undesirable side effects and risks associated with EST. The curarizing agents, if administered at the right time and in the right dose, will reduce the risk of fracture to almost zero, but adequate curarization introduces risks of its own and makes the treatment procedure more complicated. Atropine or quinidine may be given before EST to prevent acute cardiac irregularities in predisposed cases. Breathing of oxygen for a minute immediately prior to treatment will provide full oxygenation and reduce the hypoxia after EST. Unfortunately, it also seems to prolong the duration of the convulsion somewhat.

The various proposed modifications of the electric treatment are claimed to circumvent the side effects and to avoid the dangers of the therapy.

Nonconvulsive electric stimulation of the brain is reported to counteract the memory disturbance produced by a series of convulsive shock treatments. Other modifications of treatment—unidirectional current or prolonged administration of current—aim at minimizing the effects of electroshock on the memory or at avoiding the clonic phase of the convulsion, since the tonic phase alone is essential for therapeutic success. Even unilateral application of current has recently been proposed for patients with fractured extremities and other individuals in whom a unilateral convulsion would decrease the risk of physical complications.

NUMBER OF TREATMENTS

Because of the cumulative undesirable effects of EST, it is preferable to keep the number of treatments at a minimum. However, relapses will occur if insufficient EST has been given. The schedule most frequently followed consists of 3 electroshock treatments each week. For very disturbed patients, particularly in states of severe motor excitement, daily or even multiple daily treatments are indicated.

The closer the treatments are spaced, the more pronounced are the effects on memory and emotional control. For elderly patients or those with otherwise impaired cerebral reserves, treatments are often spaced at longer intervals, 1 or 2 a week.

The number of electroshock treatments required varies with the individual. In most depressed patients a series of 6 to 10 treatments will bring about a lasting remission. Depressive symptoms often subside after 3 or 4, but experience has shown that a few additional treatments are required to stabilize the improvement. From 10 to 15 treatments are necessary in some of the more persistent depressions.

Paranoid conditions require longer EST than depressive states, from 15 to 20 treatments as a rule. Schizophrenic patients must be given at least 15 to 20 and sometimes up to 50 and more to achieve a lasting remission. In the maintenance therapy of chronic patients with disturbing behavioral symptoms, 2 to 8 treatments a month may be given for an indefinite period.

If a relapse occurs it usually makes its appearance within two weeks after the last EST, so that a patient may not be considered cured until at least fifteen days after the last treatment.

INDICATIONS

The simplicity of administration and the immediate, dramatic symptomatic effects of EST may obscure the very real difficulties concerning indications, timing, and dosage. To witness the spectacular therapeutic effects of 3 or 4 electroshock treatments and almost incredible transformation of a dejected, retarded or despairing, agitated patient who looks acutely ill, cannot eat or sleep, and thinks of nothing but suicide into a happy, vigorous person with an enviable zest for living may lead one to believe that EST can perform miracles. Some physicians think of electroshock as a cure-all

for any persistent state of discomfort and weariness. These doctors and their patients will often be disappointed.

Although EST has a remarkably broad therapeutic spectrum, a careful differential diagnosis is a prerequisite for such a prescription. EST is not effective in anxiety states, in fact it has a distinct tendency to produce symptoms of anxiety and to aggravate already existing anxiety. In many depressive states there is also a strong component of anxiety. The diagnostic distinction between depression and anxiety is often difficult to make, even for an experienced psychiatrist. Still more difficult is the evaluation of the respective roles of the anxiety and depression components. If anxiety is a reaction to primary depression, then EST is indicated, but if the depression is secondary to original anxiety, EST may aggravate the patient's condition.

In most psychoneurotic conditions, the therapeutic results of EST are disappointing, except in hysteria, where the effects are merely symptomatic and usually can be achieved by much simpler means. Alcoholism, drug addiction, and psychopathic personality disorders do not respond to EST.

Hypochondriac conditions respond poorly to EST, unless the hypochondriasis is entirely the result of a depression. Any existing organic brain disease may be made worse by EST.

The most important indication for EST is endogenous depression, of either the manic-depressive or involutional type. These diagnoses are sometimes missed, principally because the doctor does not think of the possibility that the patient who looks poorly, feels miserably, has lost weight, cannot sleep, and presents some rather vague physical symptoms which do not respond to treatment may be suffering from a depression masquerading under the guise of physical illness. Reactive depressions in patients who are reacting to severe emotional trauma also respond well to EST, but the patient will probably relapse as soon as the specific antidepressant effects of the treatment have worn off unless the cause of the depression is attacked by psychotherapy during a treatment-induced period of temporary relief from depression. Depressions in patients of the senile group, often associated with atrophic or arteriosclerotic changes in the brain, may respond well to EST if administered cautiously.

Manic states and other psychotic conditions associated with severe psychomotor excitement also respond favorably and promptly to EST, even if all other attempts to control the excitement have failed. These patients have a greater tendency to relapse than those suffering from depressions.

In schizophrenia, the results of EST are good, though not as good as those of insulin coma therapy. The best results are obtained in the catatonic group.

Certain disturbing conduct disorders in chronic psychotic patients, such as refusal of food, soiling, destructiveness, inertia, stupor, and aggression, are often temporarily

improved after a few electroshock treatments. A few shock treatments may be given at regular intervals as "maintenance therapy" to improve the patient's reaction to his environment.

EST may be lifesaving in severe depressions by preventing suicide and in acute psychomotor excitement by protecting the patient against exhaustion.

RATIONALE

Electroshock therapy developed mainly out of clinical experience, and its physiologic and psychologic rationale has not yet been clarified. Since it affects such a wide variety of neurophysiologic, metabolic, endocrine, and psychologic factors all at once, the analysis of its complex effects presents great difficulties. Furthermore, the psychopathologic conditions for which it is employed have a very complex etiology and it would almost seem impossible to relate the right therapeutic factor deriving from EST to the essential etiologic factor in each individual case.

Meduna's original theory of the biologic antagonism between schizophrenia and epilepsy has not been confirmed and it could not explain the excellent therapeutic results of convulsive therapy in the affective psychoses. The hypoxia which is a feature of EST as well as of insulin coma treatment has been credited by some with the curative action; others assume that a powerful stimulation of the diencephalon is the essential factor. Still others believe that stimulation of the pituitary-adrenal axis accounts for the favorable effects of EST.

Psychoanalysts have pointed out that a patient receiving EST equates in his unconscious his loss of consciousness with death and his waking with resurrection and rebirth. The amnesia which develops during treatment may in certain cases exercise a favorable effect, since it inhibits the continuous preoccupation of a depressed patient with his overwhelming problems. The extinction of recently acquired conditioned behavior patterns and the reestablishment of older ones by electroshock in animals have been mentioned and may well be applied to human beings in reflecting on the beneficial effects of EST in acute mental disorders.

In conclusion, one may say that electroshock should be neither the first choice nor the last resort in the therapeutic management of an emotional or mental disorder. Not all distressed patients will respond to EST, and certain disadvantages and risks associated with its use will have to be carefully weighed before the treatment is prescribed.

On the other hand, there is little cause for a physician or patient to fear EST if administered by a competent psychiatrist after careful physical and mental examinations have been performed and a psychiatric differential diagnosis has been made. Few other treatments in medicine, in the right hands, can produce so gratifying results in so short a time.

Management of Anemias

MAXWELL M. WINTROBE, M.D.
University of Utah, Salt Lake City

*Therapy for anemia should be specific rather than multiple and be based on a definite etiologic diagnosis.**

SINCE anemia is a symptom and not a disease, the pathogenesis of anemia must be understood to make an accurate diagnosis.

Proper evaluation of laboratory data is essential. The red blood cell counts may vary greatly even when done by skilled technicians, and hemoglobin estimations are also subject to errors. Hematocrit determination is a valuable procedure. The physician should examine the blood smear to avoid errors of technicians of diverse training.

ETIOLOGY

Generally, a balance exists between the production and destruction of red blood cells. Increased destruction is met by accelerated production. Through increased production and transformation of yellow marrow to red, the bone marrow is capable of a seven- to eightfold increase in production capacity. Anemia results from [1] blood loss, [2] shortage of materials required for production of red cells, [3] excessive blood destruction, or [4] defects in the metabolism of red cells (see diagram).

1] *Blood loss* is the simplest cause of anemia. It should be emphasized that occult blood loss must be recognized by consequences rather than appearance.

2] Anemia resulting from *deficiency of materials required for red cell production* is the effect of continued blood loss. Since iron derived from the destruction of red cells is reutilized and, usually, little is excreted, the adult possesses nearly the lifetime iron requirement, excluding the special needs for pregnancy and menstruation. In the healthy adult male the iron requirement is essentially zero. Dietary intake of iron in the normal female compensates for slight excretory losses as well as the losses by menstruation.

Although experimental evidence shows that certain other metals and vitamins are required for blood formation, therapeutic administration of the substances to patients with anemia may not be necessary because requirements may be low, the body stores metabolites, bacterial synthesis is a protective factor, and special conditions are necessary to produce the deficiency.

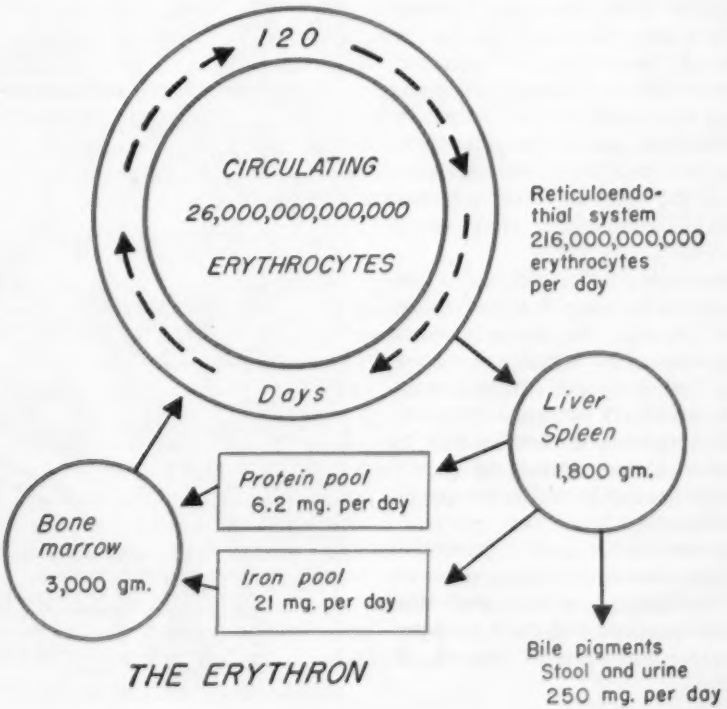
3] When *destruction of blood* exceeds production, anemia develops. Hemolytic anemias may be due to a number of causes. The extracorpuscular causes include [a] infec-

*Principles in the management of anemias. Bull. New York Acad. Med. 30:6-26, 1954.

tious chemical and physical agents; [b] vegetable and animal agents such as snake venom; [c] immune body reactions from isoagglutinins, such as transfusion reactions or hemolytic disease of the newborn, from cold hemolysins, as seen in paroxysmal cold hemoglobinuria, or from cold, warm, or blocking antibodies; [d] idiopathic acquired hemolytic anemia without demonstrable hemolysins or agglutinins; and [e] symptomatic anemia, as in cases of Hodgkin's disease or leukemia.

Intracorpuscular defects are involved in [a] hereditary spherocytosis, [b] sickle cell anemia, [c] paroxysmal nocturnal hemoglobinuria, [d] thalassemia, and [e] hereditary nonspherocytic hemolytic anemia.

The "erythron" diagram of the circulating red corpuscles with a life span of one hundred and twenty days and that part of the hemopoietic system concerned with red blood cell production and destruction illustrates that anemia will result when [1] materials required for red blood cell construction are lacking, [2] a defect exists in the metabolic processes concerned in erythropoiesis, [3] blood is lost, or [4] blood destruction is excessive.



THE ERYTHRON

4] Acquired *defects in metabolism of red cells* may result in fewer red corpuscles or defective red cells that can be destroyed more easily than usual. The category includes the anemia associated with infection, various chronic diseases, renal disease, plumbism, or irradiation and perhaps the anemia seen with drug sensitivity, hypothyroidism and other endocrine deficiencies, and the whole group of myelophthisic anemias.

DIFFERENTIATION

Recognition of the various types of anemias necessitates a complete history and physical examination. Examination of members of the family is often necessary. Blood pressure determination may point to renal disease as the cause of anemia. Scleral jaundice is suggestive of hemolytic anemia. Palpation of the bones, particularly the sternum, for tenderness and examination of the heart to detect subacute bacterial endocarditis may reveal the cause.

Morphologic classification is useful in determining the pathogenesis of anemia. For instance, when data indicate the anemia is macrocytic, certain causes can be considered and others excluded. Analysis of leukocytes and platelets may be helpful. Demonstration of pancytopenia focuses attention on specific conditions.

To evaluate a case of hemolytic anemia, studies of the bile pigments in the plasma, urine, and stool should be made and the 3-tube presumptive and Coombs' tests should be done.

THERAPEUTIC AGENTS FOR ANEMIA

LIVER EXTRACT OR VITAMIN B_{12}

Indications

Pernicious anemia, to replenish stores of antipernicious anemia factors and provide reserve for maintenance

Megaloblastic macrocytic anemia in sprue, nutritional macrocytic anemia, and so forth

Dose

For relapse: 15 units liver extract or 30 μg. vitamin B_{12} intramuscularly daily until response is good

For maintenance: 60 units liver extract or 120 μg. vitamin B_{12} intramuscularly every forty-five to sixty days

Duration

Permanent for pernicious anemia and sprue

FOLIC ACID

Indications

Pernicious anemia of pregnancy
Megaloblastic anemia of infancy
Refractory megaloblastic or achrestic anemia
Some cases of sprue

Contraindication

Pernicious anemia

Dose

5 to 20 mg. orally daily

Duration

In pernicious anemia of pregnancy or megaloblastic anemia of infancy, only until complete remission has been obtained

IRON

Indication

Iron-deficiency anemia only

Form

Ferrous sulfate or ferrous gluconate in tablets of 0.325 gm.

Dose

Usually 0.325 gm. orally three times a day with meals

For G-I intolerance or refractory iron-deficiency anemia only: intravenous saccharated oxide, 25 to 100 mg. daily until total requirement is reached

THERAPY

The number of therapeutic agents for anemia is small, and the specific agents include only iron, vitamin B_{12}, liver extract, folic acid, and thyroid extract (see table). The uses of folic acid are limited and thyroid is effective only for the anemia of hypothyroidism. Parenteral iron is rarely needed.

Blood transfusion, splenectomy, ACTH, and cortisone are nonspecific therapeutic agents. ACTH and cortisone are probably more valuable than splenectomy for acquired forms of hemolytic anemia. As much as 400 mg. of cortisone may be required during a relapse stage and a maintenance dose may be needed for prevention. Splenectomy is recommended for congenital hemolytic anemia. For splenic pancytopenia, with hyper- or hypoplastic bone marrow, splenectomy may be the only effective treatment.

When anemia is a secondary disorder, the most effective therapy is relief of the underlying condition.

¶ PERIPHERAL VASCULAR DISORDERS may be ameliorated by the vasodilator dioxyline (Paveril) phosphate administered orally. Some improvement in circulation and vasospasm was observed in more than half of 125 persons with a variety of conditions, but Ralph A. Deterling, Jr., M.D., of Columbia University, New York City, finds that the greatest benefit is obtained by patients with phlebitis, arterial thrombosis or embolism, Raynaud's phenomenon, and early thromboangiitis or arteriosclerosis obliterans. No significant side effects occurred when the drug was given in doses of 0.6 to 1.8 gm. daily for as long as eighteen months. Paveril is more active and less toxic than papaverine.

Angiology 4:397-404, 1953.

¶ COUGH SYNCOPE is a syndrome in which complete loss of consciousness follows coughing, sometimes after only a single vigorous tussive act. Some persons experience from 20 to 30 such episodes a day, note Andrew Kerr, Jr., M.D., and Vincent J. Derbes, M.D., of Louisiana State University and Tulane University, New Orleans. Most often affected are middle-aged men of pyknic physique. The majority of 40 patients studied with the syndrome were salesmen, food and liquor dealers, and physicians, robust and extroverted and prone to eat, smoke, and drink heavily; many had concomitant emphysema and bronchial asthma. Treatment is essentially symptomatic, including cocainization of sensitive areas, procaine block of the superior laryngeal nerve, weight reduction, and limitation of tobacco and alcoholic beverages. Fatalities have occurred, especially among patients with cardiovascular ailments.

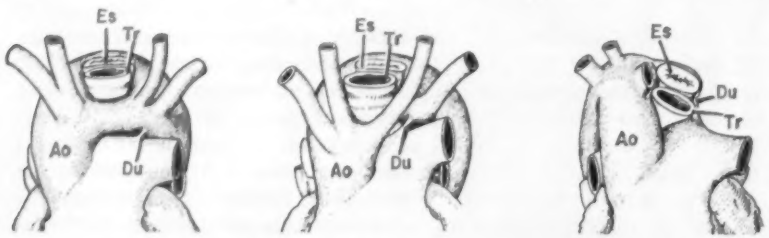
Ann. Int. Med. 39:1240-1250, 1953.

Diagnosis of Constricting Vascular Ring

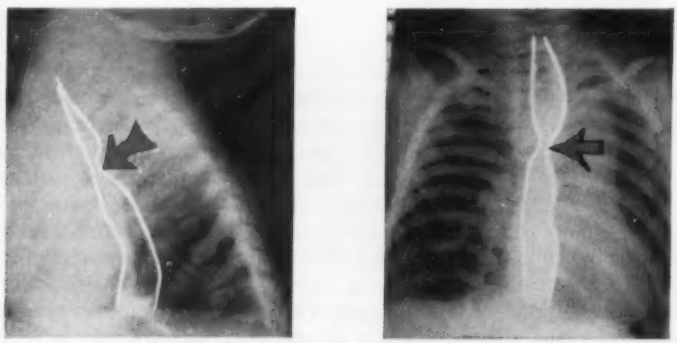
ROBERT TIDWELL, M.D., ROBERT RUSHMER, M.D., AND ROBERT POLLEY, M.D.
University of Washington and Children's Orthopedic Hospital, Seattle

Anomalous development of the aortic arches in embryonic life may give rise to abnormalities of the aorta and great vessels.

Key **Ao**—aorta **Tr**—trachea **Es**—esophagus **Du**—ductus



Symptoms of a constricting vascular ring are those of tracheal or esophageal compression or both: dysphagia, wheezing, crowing, and tracheobronchial infection.



Radiologic examination with Lipiodol or barium swallow may reveal tracheoesophageal narrowing with right-sided or posterior pressure defects and abnormal locations of the aortic knob.

The office diagnosis of operable congenital heart lesions. Northwest Med. 52:1032, 1953.

Fatigue: Symptom of Emotional Conflict

DWIGHT L. WILBUR, M.D.
Stanford University, San Francisco

*Chronic fatigue and nervousness are often symptoms of a functional disturbance caused by a psychologic conflict.**

PATIENTS without significant organic disease may have physiologic dysfunction of many body systems, including the cardiovascular, gastrointestinal, respiratory, genitourinary, and endocrine. Although an emotional disturbance causes the disorder, diagnosis should be based on positive evidence supported by definitive symptoms.

Manifestations, besides fatigue and nervousness, are tension, tachycardia, headache, and disturbances of gastrointestinal motility. Other indications are anxiety, irritability, inability to relax, mental conflicts, difficulty in making decisions, and symptoms specifically related to dysfunction of the various organ systems.

Emotional or neurotic disturbance is probably the most significant cause of ill health of one- to two-thirds of all patients seeking medical care. The source of stress may be intrinsic and within the psyche or may arise from an extrinsic conflict between the patient and the environment. Intrinsic conflicts are often of long standing and may originate in childhood problems. Extrinsic conflicts commonly arise from social situations.

The usual medical history and physical, laboratory, and roentgenologic examinations may be used to find functional disorders as well as organic disease.

To establish a positive diagnosis the physician must discover the source of mental conflict. Signs of tension, subconscious slips in conversation that reveal conflicts, and emotional release by the patient during interviews are often indicative. Specific questions asked by the physician may reveal causes of anxiety.

Points used to show that the condition is not organic disease but a functional disorder include:

1] Onset of symptom coincident with emotional disturbance

2] Symptom intensified or relieved under circumstances not ordinarily affecting organic disease

3] Ancillary signs typical of functional symptom complex

4] Either undue concern or unusually apathetic attitude of the patient toward the symptom

5] Symptom not likely to awaken patient at night.

Most functional disorders caused by extrapsychic factors and some precipitated by intrapsychic conflicts can be treated by a general physician. If the origin of the dis-

*Clinical evaluation of fatigue and nervousness. M. Clin. North America 37:1785-1802, 1953.

order is largely intrinsic, psychiatric help often should be enlisted.

Before a functional disorder can be treated, the cause of symptoms must be explained to the patient. The patient should understand that the symptoms are actual, not imaginary, and are normal reactions to prolonged anxiety or tension, not signs of mental disease.

If possible, the correlation of symptoms and conflict situations should be made by the patient. When the precipitating factor is recognized, the patient may be able to alter the causative environmental situation or accept the unalterable.

Concomitant somatic therapy is necessary for treating any organic disease, for psychotherapeutic effect, and for temporary relief of functional symptoms. Such therapy may include use of sedatives, sympathomimetic drugs, placebos, diet, analgesics, hormones, vitamins, physical therapy, and exercise.

To prevent recurring incidents of tension, the patient should learn methods of adjustment and may find out how to avoid situations that will cause anxiety. Through treatment, the patient may build up stress tolerance by developing insight into symptoms.

Bed Rest and Tuberculosis

ALBERT I. DE FRIEZ, M.D., WILLIAM E. PATTON, M.D., EDWARD J. WELCH, M.D., AND THEODORE L. BADGER, M.D., CHANNING HOME FOR TUBERCULOSIS, BOSTON, emphasize that the unequivocal value of antituberculous drugs makes treatment of active tuberculosis by bed rest alone hardly justifiable today.

The problem of the future is to determine how much bed rest, strict or modified, is advisable in addition to drug therapy. A study of 377 patients, treated before the use of chemotherapy, reveals a cumulative relapse rate of 39.1% for minimal and 56.2% for advanced pulmonary tuberculosis. Strict bed rest is not superior to modified bed rest as judged by the later cumulative relapse rates. Within five years of discharge, 70% of all relapses occur.

However, patients with active disease often lose all signs of fever, malaise, anorexia, and productive cough in a few weeks of strict bed rest. When stability has been demonstrated on roentgenograms and conversion of sputum has been attained and ambulation started, the fate of the disease process depends on such nebulous factors as the patient's inherent resistance and subsequent mode of living.

Drugs and surgery may shorten the necessary period of bed rest. Indoctrination of the patient about the disease is important. Rehabilitation may become acceptable during long-term chemotherapy; meanwhile bed rest is the starting point of management.

Bed rest in the treatment of pulmonary tuberculosis. New England J. Med. 250:39-46, 1954.

Emergency Therapy of Burns

HARVEY S. ALLEN, M.D.
Northwestern University, Chicago

*Healing of an acute thermal injury is best promoted by avoidance of infection and of motion or trauma rather than by use of ointments or drugs.**

SIMPLE cleansing of the burned site with bland soap and water and the application of a sterile dressing are the only requirements for most small burns. Once the outside air is occluded, pain will subside.

The dressing is left untouched for five or six days, then is gently removed with precaution not to tear the new epithelium. Local drugs have little effect on the healing and often prove detrimental.

For treatment of large burns, the best immediate care is to cover the injured part and quickly transport the patient to a place where adequate management is possible. Here the burned area is cleansed and all obvious foreign material removed. Morphine should be avoided; anesthesia is never advised for initial care.

Estimation of degree or extent of the destroyed tissue is usually not possible or feasible when a patient is first seen. Consequently, sterile petrolatum gauze is put over all the burned region except the nose and mouth. Sterile fluffed gauze and large sterile pads are next applied, and the whole area is carefully bandaged to provide firm, even compression. The resulting pressure dressing will decrease local exudation.

When the extremities are involved, the limb is splinted in the position of function. Burned fingers are dressed individually.

The dressings are left undisturbed for about a week, or for four or five days if the face is involved. The bandages are changed only to the petrolatum gauze layer to prevent injury to the epithelium regenerating from the remaining sweat glands and hair follicles. Such incomplete-thickness burns appear dry and moderately pink.

However, whole-thickness burns will not regenerate. A week after the initial burn, the whole-thickness type shows moisture and is anesthetic. When a definite eschar is formed, the site is depressed. All necrotic skin and debris must be removed and skillful skin grafting should be done early to avoid infection and decrease the protein loss resulting from continuing exudation.

When over 10% of the body surface is burned, outpouring of fluid from the blood into the burn site produces dehydration in the other tissues at an alarming rate. Immediate fluid replacement is neces-

*Emergency care of the burned patient. M. Clin. North America 38:95-100, 1954.

sary to prevent shock. Kilograms of body weight times percentage of body surface burned equals the amount of plasma to be given during the first twenty-four hours. An equivalent amount of saline may also be administered. One-half of the fluid is given during the first six hours, and the patient's condition then is reevaluated.

The blood volume must be maintained at normal levels for the first forty-eight hours with allowance for renal excretion. An indwelling catheter should be installed and the urine flow maintained at 25 to 35 cc. per hour.

Thirst indicates impending shock. One glass of saline mixture per hour may be given. Constant observation of the patient's pulse rate, color, degree of restlessness, thirst, and urinary output guides the individual management. High-protein diets and blood transfusions are used to correct the hypoproteinemia and anemia that appear seventy-two hours after severe burns.

¶ HYPERTHYROIDISM treated with propylthiouracil is most likely to result in permanent remission if the diagnosis is Graves's disease and the goiter is small or moderate in size. The disease has remained in remission for four or more years since therapy was discontinued for 40 of 60 such patients. Although therapy was stopped within five months after remission was established for 8 of the 40 patients, E. Perry McCullagh, M.D., and Carl E. Cassidy, M.D., of the Cleveland Clinic and Frank E. Bunts Institute, Cleveland, believe that long-term treatment increases the likelihood of lasting relief. The usual dosage of propylthiouracil was 200 mg. a day given in 50-mg. tablets after meals and at bedtime. In some instances the amount was increased to 300 or 400 mg. daily.

J. Clin. Endocrinol. & Metabol. 13:1507-1512, 1953.

¶ SUBACUTE BACTERIAL ENDOCARDITIS caused by penicillin-sensitive streptococci may be treated with 1,000,000 units of aqueous procaine penicillin G and 1 gm. of dihydrostreptomycin sulfate injected, together or separately, intramuscularly every twelve hours for two weeks. Joseph E. Geraci, M.D., and William J. Martin, M.D., of the Mayo Foundation, Rochester, Minn., report that 18 of 23 consecutive patients have remained well for an average of more than a year since receiving the short-term treatment. *Streptococcus mitis* was isolated in 20 cases, *Streptococcus salivarius* in 2. All 5 patients who died had had the disease for several months before therapy was started; the fatalities were all attributable to complications of the endocarditis and underlying heart disease or to coronary occlusion.

Circulation 8:494-509, 1953.

SPECIAL EXHIBIT

Duodenal Intubation in Intestinal Obstruction

JOHN W. DEVINE, M.D.,
AND
JOHN W. DEVINE, JR., M.D.
Lynchburg, Va.

An instrument for intubating the duodenum and the technic for using are described. A flexible tip control facilitates insertion of the tube into the duodenum. Advantages are prompt, controlled duodenal intubation and, when the air vent tube is used, rapid intestinal decompression.

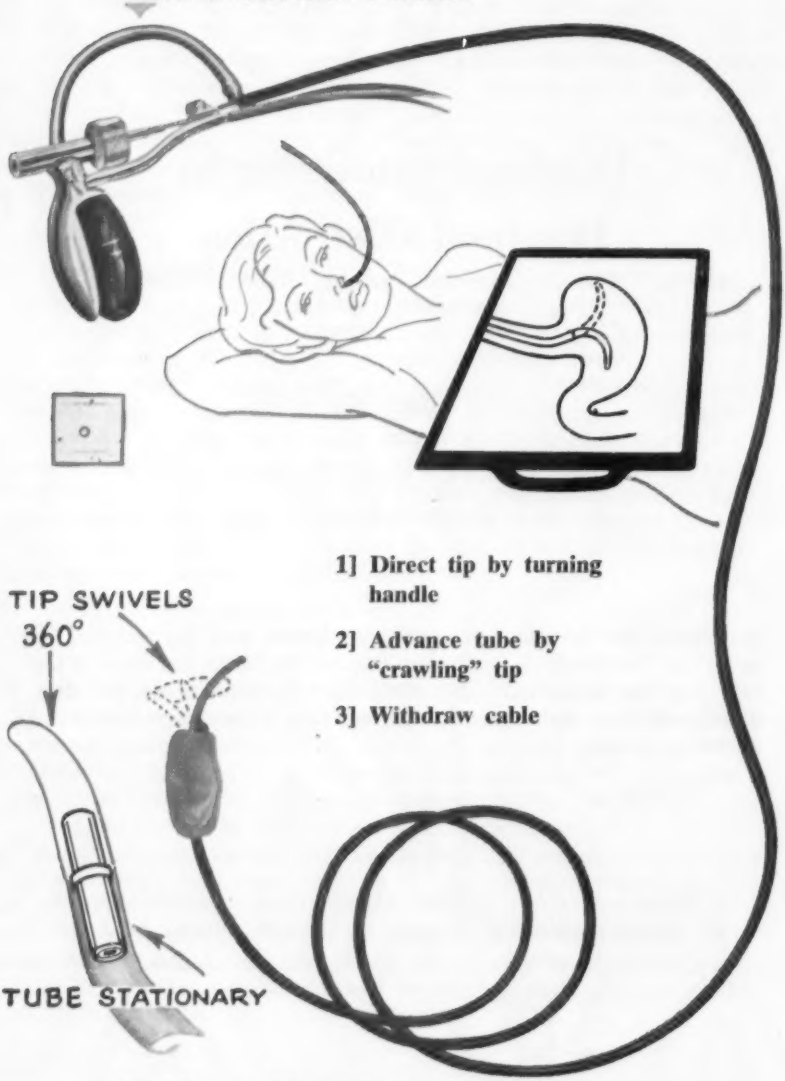
A Modern Medicine Exhibit adapted from a presentation at the American Medical Association Clinical Session, St. Louis

SPECIAL EXHIBIT

Duodenal Intubation with Flexible Tip Control

Radiologic Views

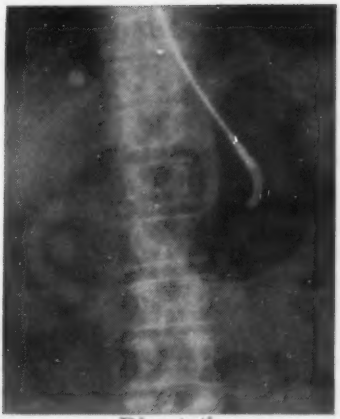
Instrument and Technic



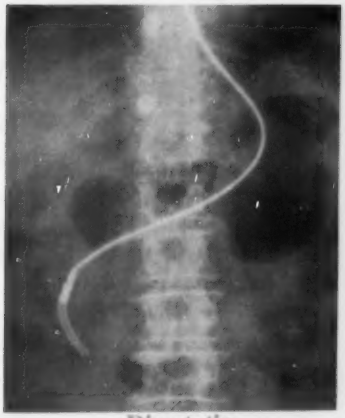
1] Direct tip by turning handle

2] Advance tube by "crawling" tip

3] Withdraw cable

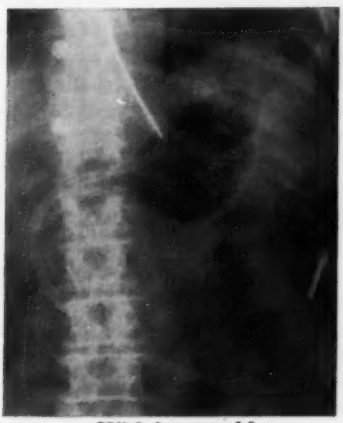


Direct tip

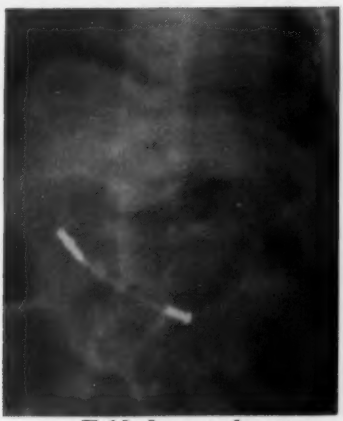


Direct tip

Advance tube



Withdraw cable



F-10 for newborns

Keloids and Keloidal Scars

EDWARD A. KITLOWSKI, M.D.
University of Maryland, Baltimore

*Differential diagnosis between a keloid and a keloidal scar is essential for proper treatment of either condition.**

A KELOID is a fibroma usually of corium. A keloidal scar is an overgrowth of fibrous tissue which can thicken and simulate a keloid when the surrounding skin contracts.

Keloids occur in all age groups, are more frequent in persons with dark complexions and oily skins, and are often seen in children, probably due to the greater incidence of trauma during youth. In highly susceptible persons, any abrasion, even a pin scratch, may result in a keloid. Rarely are keloids found on the hands or feet.

Keloidal scars occur when the epithelial elements have been partially or completely destroyed, burns being the most common cause. These scars may contract because of skin shortening and interfere with the function of underlying muscles. A vicious circle may be established, since muscle contraction thickens the scar, thereby increasing the tension. The scar becomes more raised and gives the impression of keloid with extending growth. Incisions across the lines of Langer often cause raised, thickened scars. Keloidal scars develop most easily in the sternal area of the female because of the tension caused by the weight of the breasts and by chest expansion.

The symptoms of the 2 conditions are similar; both cause itching, formication, tenderness, and pain. Microscopically both conditions show hyperplasia of the fibroblastic cells. In the keloid the fibrous tissue appears denser with a tendency to whorls and few blood vessels. The margins of the keloid usually end abruptly, blending only slightly into surrounding skin. The keloidal scar shows fibrous tissue gradually disappearing into skin.

Differential diagnosis between keloid and keloidal scar is made by massage. The patient is instructed to massage the area with a rotary motion for fifteen to twenty minutes daily with castor oil, which may be alternated with carbolated petroleum jelly. If the wound becomes soft, flat, and less red, the condition is a keloidal scar.

The keloid is treated with an erythema dose of roentgen ray, and partially excised two or three weeks later. Local anesthesia is injected into the keloid and under the surrounding skin; new keloids may form if the needle goes into healthy skin. The depth of the keloid is excised into normal fat, and the margins are undercut to

*The treatment of keloids and keloidal scars. Plast. & Reconstruct. Surg. 12:383-391, 1953.

relieve tension on the closure. The wound is closed by approximating the remaining margins of the keloid. With such treatment only 10% of keloids will recur.

Massage is often used to treat keloidal scars for as long as two years, but surgery is eventually necessary to correct unsightly appearance or eliminate possibility of contracture. Complete excision may be done with extensive undercutting of the surrounding skin and subcutaneous fat. Approximation with rows of sutures will ease tension from the incision. The incision is protected for three weeks with gauze and collodion and, if the scar is on the chest of the female, the patient should wear a supporting brassiere constantly for six weeks after operation.

A broad scar can be removed by gradual partial excision if the area is amenable to shifting of the surrounding skin. Where sliding of the skin is not possible, relaxing incisions and grafting are used for broad, tight scars.

Z-plasty can be utilized satisfactorily for small contracted areas with raised, check-rein scars, a condition frequently seen on the face.

Keloidal scars can be avoided to a great extent when grafting is done by removing granulation tissue down to a firm base before applying the graft.

Pulmonary Resection in Infancy

E. S. CROSSETT, M.D., AND ROBERT R. SHAW, M.D., BAYLOR HOSPITAL AND SOUTHWESTERN MEDICAL COLLEGE, DALLAS, believe that excisional surgery for pulmonary lesions may be safely performed for infants under 1 year of age. Resection may be valuable in the following conditions:

- *Pulmonary cysts.* Solitary congenital pulmonary cysts may be large enough to produce compression atelectasis of adjacent lung tissue. Cough, rapid respiration, and repeated attacks of cyanosis may occur. Lobectomy of the involved portion of lung will alleviate symptoms.
- *Localized hypertrophic emphysema.* Probably of congenital origin, localized hypertrophic emphysema is an entity in which the alveoli are grossly distended in one segment or lobe of the lung. Excision of the diseased segment is curative.
- *Localized fetal atelectasis.* Occasionally fetal atelectasis, despite treatment with antibiotics and bronchoscopy, becomes chronic. In such irreversible cases, extirpation of the atelectatic tissue is done.
- *Bronchiectasis with cystic pancreatitis.* Resection of the destroyed pulmonary segments and protracted use of antibiotics and inhalation therapy may prolong the life of a child with fibrocystic disease of the pancreas.

Pulmonary resection in the first year of life. Surg., Gynec. & Obst. 97:417-424, 1953.

Treatment of Pilonidal Sinus

RICHARD W. DWIGHT, M.D., AND JOSEPH K. MALOY, M.D.
Cushing Veterans Administration Hospital, Framingham, Mass.

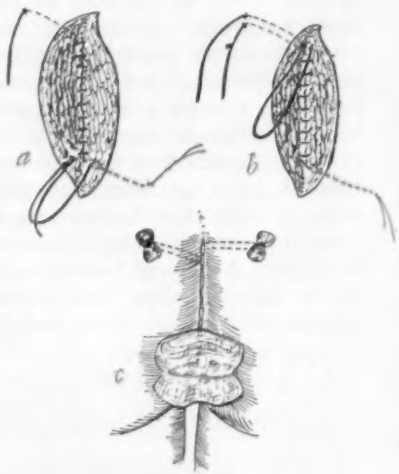
*Primary closure, without excision of the cyst lining, is usually successful therapy for small, midline, uninflamed pilonidal sinuses.**

MOST pilonidal sinuses, except those connecting with the spinal canal, are probably of mechanical rather than congenital origin.

The gross appearance of the hair in the sinuses, the finding of hair-filled recurrences after extensive excision, the pattern of healing after operation, the high preponderance of male patients, the association of trauma and obesity, and the occurrence of similar lesions in areas other than the sacral all point to a mechanical source. Apparently some combination of stiff hair, tender or macerated skin, poor hygiene, and, possibly, repeated trauma causes the initial skin penetration, with subsequent formation of a foreign-body cyst.

Excision of the sinus tract is unnecessary if all hair is removed and a wound is made that will heal without irregularity. An extensive plastic procedure is not justified, and partial closure cannot be used in obese patients.

A simple procedure can be utilized for a midline cyst 8 cm. or less in length that does not extend more than 2 cm. from the midline.



The cyst, including the tract and any openings, is excised with a minimal amount of skin and fat. Care is taken to stay just outside the cyst. Running sutures of No. 000 braided Surgalloy wire are used to close the defect.

A suture on a large, curved needle is started on the right and passed through the skin about 2 cm. lateral to the cephalad end of the incision. The suture is continued into the deepest level of the upper end of the wound. A smaller needle is then substituted and passed from side to side of the defect, taking small bites of fat (Fig. *a*).

A doubled wire suture is twisted to make a tiny loop and threaded

*Pilonidal sinus. New England J. Med. 249:926-930, 1953.

on a large cutting needle. The needle is started at the lower end of the incision and brought out 2 cm. lateral to the edge as a pull-out wire.

The first suture is threaded out through the loop and then continued back up the wound at a more superficial level, to be brought out at the origin (Fig. *b*). After the second suture is placed, the 2 ends are tied over a pledget of gauze.

A second running suture is begun on the left, carried down the wound to a pull-out loop on the right and brought back as a subcuticular stitch. The 2 pull-out ends are tied to each other over a gauze roll.

The wound is thus closed in 4 layers by 2 running sutures, each starting and finishing at the upper end and going through a pull-out at the lower (Fig. *c*).

Bed rest is advocated for five days after surgery. A low-residue diet, 10 drops of deodorized tincture of opium three times daily, and penicillin are given during the postoperative period. The sutures are removed on the tenth day.

A wire occasionally breaks, but ordinarily creates no inconvenience. If an end causes a pricking sensation, the wire is easily removed.

Recurrence was noted among 6 of 48 patients observed for one year or more.

Breast Cancer and Pregnancy

THOMAS TAYLOR WHITE, M.D., NEW YORK UNIVERSITY, NEW YORK CITY, believes that the coincidence of mammary carcinoma and pregnancy is quite uncommon. Only about 3% of patients with cancer of the breast are pregnant or lactating. These women are usually seen at a more advanced stage of the malignant disease than nonpregnant patients. The lower gross survival rate may be a result of delayed treatment since many women attribute the signs and symptoms to pregnancy. However, while pregnancy or lactation apparently accelerates the course of the neoplasm, cure is not precluded.

About 17% of the women with carcinoma developing during lactation or pregnancy survive five years, and more than 11% survive ten years. The ten-year survival rate has improved considerably since 1920.

When pregnancy occurs after treatment of breast cancer, 49% of patients survive five years and almost 17% survive ten years. The results are comparable to those when pregnancy and nursing are not factors. Many patients with advanced disease do not become pregnant after treatment, possibly because of metastases.

Abortion does not have a clearly beneficial effect on the course of mammary carcinoma treated before or found during pregnancy and cannot be recommended as effective.

Carcinoma of the breast and pregnancy. Ann. Surg. 139:9-14, 1954.

Biologic Predeterminism of Gastric Cancer

IAN MACDONALD, M.D., AND PAUL KOTIN, M.D.
University of Southern California, Los Angeles

*Under the most ideal conditions, less than 20% of all gastric carcinomas are surgically curable when first recognized.**

THE final outcome in a case of carcinoma of the stomach is governed by the type of growth rather than the time or kind of operation. Some tumors develop so rapidly and silently that death results before the diagnosis is even suspected. Chances are most favorable for patients whose stomach symptoms are well defined and have continued for some time.

Subtotal gastrectomy with wide omental resection and splenectomy is the most satisfactory treatment, from consideration of recovery and physiologic aftermath. If no distant metastases are observed, extensive lesions infiltrating adjacent structures may be extirpated.

One may question whether surgery is worth while in more than 40% of cases, although some operations have palliative value. The only possible early attack is to resect a stomach ulcer which may be carcinoma.

Slowly developing lesions confined to the gastric pouch and perigastric nodes gradually cause symptoms of gastric dysfunction. Patients with a considerable interval between onset of symptoms and operation have the best chance of life. In about 2 of 5 instances, however, few or no symptoms appear, and the most lethal form of growth never gives traditional danger signals. Between such extremes are various gradations.

Prognosis is best for adenocarcinoma and the undifferentiated blue cell cancer of Steiner, worst with mucinous, infiltrating scirrhous, and anaplastic tumors.

The primary growth may spread luminally through the mucosa; transmurally, either focally or en bloc, to invade the serosa; or by extension to adjacent structures.

Intramural extension is commonly a bad omen. The mucosa is nearly always involved far beyond visible or palpable limits, perhaps 5 cm. beyond the apparent margin. Lesions may spread either on the cardial or duodenal side of resection, and cardial involvement is almost uniformly unfavorable.

In a report of 133 cases, all five-year cures are attributed to subtotal gastrectomy. Of 55 deaths among 457 cases reviewed by another author, only 3 were considered preventable by total rather than subtotal technic.

Almost 1 of 3 gastric carcinomas

*Biologic predeterminism in gastric carcinoma as the limiting factor of curability. Surg., Gynec. & Obst. 98:148-152, 1954.

tends to enlarge locally rather than metastasize. Both serosal tumor and growth extending to other structures may be removed by wide omental resection and splenectomy. Fundal lesions are excepted, since as a rule the diaphragm and esophagus are invaded, and nearly all proximal lesions metastasize before inciting warning symptoms.

Lymphatic behavior may also preclude effective surgery, since immediate perigastric nodes are only the first zone of migration. In secondary areas, pancreaticolienal nodes may be obtained by splenectomy.

Hepatic and subpyloric nodes, however, are removable only by resection of the duodenum and pancreatic head, and cancer spreading this far usually reaches the celiac axis group of paraaortic nodes. Even if feasible, a supraradical operation would be vain.

The most convincing evidence of biologic predeterminism is failure of gastric carcinoma to yield in the face of rising rates for operability and resectability. According to reports from specialized institutions, the net progress in thirty-five years, representing 2 eras of American surgery, is a 4% decrease in resection mortality and 10% gain in five-year survivals.

A true cross section of gastric cancer is provided by 2,891 cases in a single community, where the five-year survival rate for all tumors is 1.4%. In late years, the resectability rate is 28% for private patients and 7% for the indigent, a difference probably reflecting the value of early diagnosis. Nevertheless, the postoperative five-year rates are almost identical—33% for private and 31% for charity cases.

Since an inexorable course is determined before malignant cells can be shown by available radiographic or cytologic methods, early screening, diagnosis, and therapy will reduce mortality very little.

For only 1 type does prompt resort to resection appear promising. When stomach ulcer is demonstrated after the age of 40 years and radiographic or other evidence fails to indicate a neoplastic lesion, medical treatment should be limited to several weeks. If the ulcer does not heal, resection should be done as if for tumor. Undoubtedly, gastric cancer still confined to the stomach will occasionally be eradicated by this method.

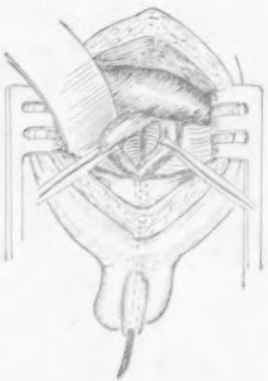
¶ PARAPHIMOSIS may be easily reduced by the injection of hyaluronidase into the edematous tissues. At each of 4 points—the top, bottom, and sides—of the exposed constricting ring of the prepuce, William J. Engel, M.D., of the Cleveland Clinic, Cleveland, injects 0.5 cc. of 1% procaine solution containing 150 turbidity-reducing units of the enzyme per 2 cc. Distribution of the solution is expedited by gentle massage. Within twenty minutes the swelling diminishes and the foreskin may be replaced.

Cleveland Clin. Quart. 21:24-26, 1954.

Vesical Neck Resection in Children

MORTON C. WILSON, M.D., GEORGE R. HORTON, M.D.,
BILL F. HORTON, M.D., AND JAMES W. BYRNE, M.D.
Kings County Hospital, Brooklyn

*The retropubic approach permits facile resection of congenital contracture of the vesical neck, which causes lower urinary tract obstruction in a child.**



CONTRACTURE of the neck of the bladder, one of the commonest congenital anomalies of the genitourinary tract, is found most often among children under the age of 6. However, many cases are not diagnosed or the manifestations recognized until the second or third decade.

The symptoms are often identical with those of prostatism and other forms of lower urinary tract obstruction in adults, but are frequently ignored until back pressure has caused dilatation of the upper urinary tract to an advanced or irreversible degree. Enuresis resistant to psychotherapy or repeated episodes of urinary tract infection refractory to symptomatic treatment may on investigation prove to be caused by an obstruction amenable to surgical correction only. Occasionally a patient is not referred to a urologist until an abdominal mass or the uremic state has appeared.

The diagnosis of any type of lower urinary tract obstruction in children can be readily made by determination of the urinary residual, a simple office procedure. Any residual above 15 cc. is significant.

The treatment of vesical neck contracture is surgical, as dilation by sounds or bougies has no lasting value. Since nonoperative treatment of boys requires general anesthesia, one operation is preferable to a lifetime of such instrumentation.

Transurethral resection by the infant resectoscope has technical limitations including poor visibility, difficulty in securing hemostasis and in determining the amount of tissue to be resected, and the occasional necessity for external urethrotomy. Moreover, possible hazards of the transurethral procedure are urinary extravasation, rectal per-

*Retropubic approach to bladder neck resection in children. Arch. Surg. 68:87-92, 1954.

foration, stricture formation, and, rarely, incontinence.

Resection of vesical neck contractures is most satisfactorily accomplished by a retropubic approach, which allows easy access and good visibility. Passage of a sound before incision of the prostatic capsule facilitates location of the urethra. A longitudinal incision is then made over the sound in the prostatic capsule.

Extension of the incision distally as far as the verumontanum, if necessary, enables visualization of the entire prostatic urethra. Congenital urethral valves can be resected readily and, if the incision is continued upward, the bladder can be opened widely to correct any condition within. If prolonged obstruction has resulted in upper tract lesions, a cystotomy can be performed by a stab incision through the anterior bladder wall.

Adequate hemostasis can be obtained by digital pressure on the resected area with a piece of oxidized cellulose.

The postoperative period is usually uncomplicated.

The procedure has been employed with excellent results for 5 of 6 children, aged 1 to 13 years. In the other cases effects are considered good. Observation periods since the operations have been six to fourteen months.

Radiation Fibromatosis and Fibrosarcoma

VERNON D. PETTIT, M.D., JAMES T. CHAMNESS, M.D., AND LAUREN V. ACKERMAN, M.D., WASHINGTON UNIVERSITY, ST. LOUIS, warn that potentially malignant fibromatosis may develop many years after excessive radiation therapy.

Involved areas, with all adjacent scar tissue, should be completely excised as soon as recognized. If fibrosarcoma is identified, removal of structures usually considered indispensable may be necessary.

Although cancer is not uncommon after roentgen therapy, fibrosarcoma is seldom reported. However, 4 cases were recently observed, and also an example of predisposing fibromatosis. In all instances, large doses of ill-planned roentgen treatment had been given as long as six, nine, fourteen, and twenty-seven years previously.

Etiology resembles that of osteosarcoma in heavily irradiated bone. Fibrous tissue proliferates to form tumor-like masses, in which multiple malignant foci may form.

The diagnosis is confirmed by finding [1] collagen-forming spindle-shaped cells, individually wrapped in reticulin fibers and arranged in interlacing bands, [2] abundant mitotic figures with abnormal configurations, and [3] infiltration.

Fibrosarcoma does not metastasize but causes death by local extension, for example, to the oral cavity, throat, or lungs.

Fibromatosis and fibrosarcoma following irradiation therapy. Cancer 7:149-158, 1954.

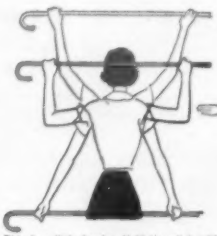
Exercises after Mastectomy

SOCIETY OF MEMORIAL CENTER
Memorial Hospital, New York City

*When a patient has had a breast removed, postoperative exercises will help to restore the affected arm to normal use.**

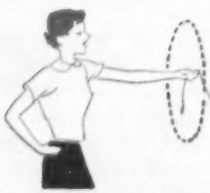
THE exercises should begin as soon as possible after operation. The procedures illustrated all are helpful but only one should be done in a day. The selected exercise should be performed slowly at first and only for a short time. For good results, however, the exercise chosen should be performed at least ten times.

Climb the wall with the fingers. Work hands up the wall parallel to each other until both arms are fully extended above the shoulders.



This is a little harder. Hold the stick with both hands about 2 ft. apart. Raise the stick above the head, then lower behind head, sliding the hands to behind the neck.

Extend arms sideways, bend elbows, touching fingers at the back of the neck. Extend arms sideways again and bring hands to back of waist.



Extend the affected arm stiffly and away from the body. Turn the rope with as wide a swing as possible without bending the elbow or wrist.

Slide the rope up and down over the rod as far as possible, without bending the waist. Keep feet flat on the floor and extend arms widely.

Swimming allows greatest use of the affected arm. These motions train the deltoid and other muscles to carry on the function of lost pectoral muscles.

*Exercises for the postmastectomy patient. Cancer Bull. 5:108-109, 1953.

Repeated Fetal Loss by Erythroblastosis

TOMMY N. EVANS, M.D.
University of Michigan, Ann Arbor

*Preterm interruption of pregnancy of women likely to have an erythroblastotic baby appears to improve fetal prognosis.**

ARTIFICIAL termination of pregnancy after the eighth month of gestation is probably advisable for mothers who have had stillborn erythroblastotic babies or babies with evidence of severe disease at birth and whose husbands are Rh positive. However, a pregnancy should not be ended when the fetus is in a premature stage because fetal hazards are great when prematurity is combined with erythroblastosis.

When findings indicate that prematurity is no longer a major factor in fetal survival, the pregnancy is terminated by induction of labor. When efforts to induce labor fail, cesarean section is done.

No known therapeutic method will prevent maternal sensitization or the development of erythroblastosis. Cooperation of obstetrician and pediatrician with prenatal anticipation of and preparation for the erythroblastotic infant is important for improving fetal survival.

The most reliable criterion in anticipating an affected infant is the past obstetric history. When a woman is delivered of an erythroblastotic infant, the prognosis in future pregnancies is, in large measure, dependent upon the severity of disease in previous babies and the Rh status of the husband. If the husband is homozygous Rh positive, future pregnancies will almost invariably yield an affected infant. If the husband is heterozygous, a 50% chance exists of the woman having an unaffected Rh-negative infant.

Maternal Rh antibodies indicate only that the mother has been sensitized by a previous Rh-positive baby or the injection of Rh-positive blood. Increase in the titer of such antibodies during gestation does not prove that the fetus is Rh positive nor indicate severity of erythroblastosis.

To determine fetal size and development, date of onset of quickening, height of uterine fundus, palpable size of fetus, and the history of amenorrhea are taken into consideration. Fetal distal femoral epiphyses on x-ray films, usually not evident until after the thirty-sixth week of pregnancy, are the best criteria for fetal maturity. The development of a subcutaneous fat line, the degree of calcification of the fetal skull, and over-all fetal size are other roentgenographic observations used to evaluate fetal maturity.

In a group of 11 patients meeting the indications for induction, 7

*Prevention of repeat fetal loss in erythroblastosis. Obst. & Gynec. 3:80-86, 1954.

were delivered vaginally, 3 by cesarean section, and 1 by premature spontaneous labor. Only 1, a section baby, died. Selection of time for termination was based on past obstetric history of the patient, which usually suggests that repeated intrauterine death from erythroblastosis occurs at about the same stage of gestation in each patient.

In each instance, an early exchange transfusion through the umbilical vein was given after the reaction to Coombs's test of cord blood was positive and severe anemia had been established.

Vasodilators for Toxemia of Pregnancy

MILTON L. MC CALL, M.D., JEFFERSON MEDICAL COLLEGE, PHILADELPHIA, finds advantages in both veratrum viride and Apresoline for toxemia of pregnancy. Either drug relaxes constricted blood vessels but does not interfere with vital functions.

Veratrum viride is more strongly hypotensive than Apresoline and produces only transient discomfort; nausea and restlessness subside in a few minutes.

The compound greatly lowers vascular resistance in the brain and reduces mean arterial blood pressure in well and toxemic patients. Cerebral blood flow and oxygen metabolism and respiratory quotient remain normal, as do oxygen and carbon dioxide in blood obtained from the femoral artery and jugular vein.

Apresoline, though causing greater apprehension and vomiting than veratrum viride, increases renal and coronary blood flow, improves the ballistocardiographic changes, and often raises urinary output even while blood pressure falls. The drug notably decreases blood pressure and cerebral vascular resistance and increases blood flow and oxygen utilization by the brain. Respiratory quotient and blood gases are unchanged.

Cerebral functions of 24 toxic and 18 healthy women were observed before and after medication in the last weeks of gestation or soon after delivery. A group of 14 subjects were preeclamptic, and 10 had acute toxemia superimposed on slight essential hypertension.

Veratrum viride (Veratrone) was administered intravenously to 20 women; the dose was 0.2 cc. except for 3 patients who weighed less than 100 lb. and received only 0.13 cc. Intramuscular doses of 40 mg. of Apresoline each were given to 22 women. Studies of blood flow were made an average of thirty-two minutes after veratrum viride was administered and thirty-five minutes after Apresoline was injected.

Cerebral circulation and metabolism in toxemia of pregnancy. Observations on the effects of veratrum viride and Apresoline (1-hydrazinophthalazine). Am. J. Obst. & Gynec. 66:1015-1030, 1953.

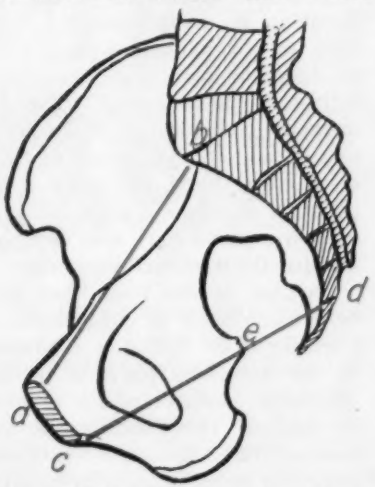
The Dolichopellic-Anthropoid Pelvis

PAUL E. MOLUMPHY, M.D., AND HERBERT THOMS, M.D.
Yale University, New Haven, Conn.

NAWAL KISHORE, M.D.
Medical College, Agra, India

*The pelvis with a long anteroposterior diameter, often regarded as atavistic and obstetrically undesirable, is actually well adapted for childbearing and, even when slight or contracted according to textbook standards, usually permits surprisingly easy delivery.**

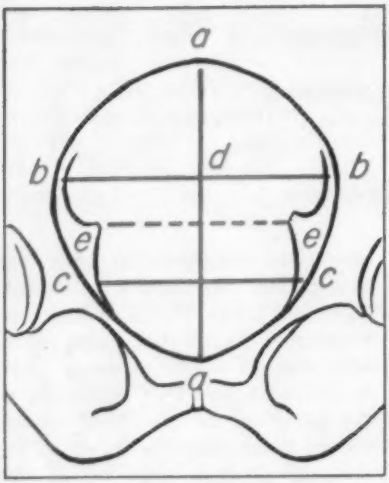
PELVIC measurements were made on inlet and lateral films of 200 unselected primigravidas with long oval pelves. Measurements showed that though the women were of average size, 23.5% had large pelves with sum of anteroposterior (AP) and transverse (TV) diameters of the inlet over 26 cm.; 71% were in the medium range; and only 5.5% had slightly contracted pelves with the sum of the diameters between 22 and 23 cm. By comparison, inlets of average mesatipellic, or round, pelves tend to be smaller and brachypellic, or transverse oval, pelves, smaller still.



Anteroposterior diameter of pelvis as measured on lateral film. *ab* is AP diameter of inlet; *cd* is AP diameter of midplane; *ed* is the posterior sagittal diameter of midplane.

The significant measurement in long oval pelves occurs at midplane where, in this group, the average TV diameter was below the normal standard of 10.5 cm. in all the women but those in the large category; 35% of the pelves were below the 10-cm. limit, twice the usual incidence, and 13.5% were below 9.5 cm. However, the AP diameter was above the standard of 11.5 cm. in all groups and the posterior sagittal (PS) dimension was long at this level, especially in the group with pelves classed as small. As a result, the sum of TV and PS diameters reveals that the index of midplane contraction was below 14.5 cm. in only 14% and

*The obstetrical status of the dolichopellic-anthropoid pelvis. Obst. & Gynec. Surv. 8:615-654, 1953.



Inlet diameters in a typical dolichopellic-anthropoid pelvis. *aa* is anteroposterior, 13.5 cm.; *bb* is transverse, 12.8 cm.; *ad (top)* is posterior sagittal, 5.3 cm.; *ee* is interspinous (midplane transverse), 9.6 cm.; and *cc* is anterior transverse, 9.7 cm.

contracted below 13.5 cm. in only 7.5%.

The AP diameter of the outlet was about 0.6 cm. less than that of the midplane. However, since the functional value of the posterior centimeter or less of the midplane AP diameter is doubtful, the AP diameter of the outlet can probably be used for both dimensions.

The average sacrum in the group is longer than the 10-cm. standard, being longest in women in the large group. Typical configuration is a long, well-curved sacrum with flaring sacrosciatic notch, but many variations were noted in sacral curvature and short and flat types also occurred.

The vertex was presenting in 89.5% of roentgenograms made near term with 42% in direct or obliquely anterior positions, 22.2% in direct or obliquely posterior positions, and 33.8% in transverse. Thus, the long axes of the fetal head and the pelvic inlet tend to be oriented.

Although the combination of narrowed midplane transverse diameter and occipitoposterior position is generally considered hazardous, a favorable obstetric prognosis is associated with dolichopellic-anthropoid pelves. In this group, over 67% delivered spontaneously.

Difficulty at the inlet or in the upper cavity is, of course, rare since space is ample. Although narrowing of the midplane predisposes to dystocia, the length of the AP diameter is compensatory. Over 90% of the patients with slightly or definitely contracted midplanes delivered spontaneously. The PS diameter, configuration of the lower sacrum and coccyx, length of forepelvis, size, shape, and angle of inclination of subpubic arch, and give of pelvic joints may also compensate for the narrowed midplane.

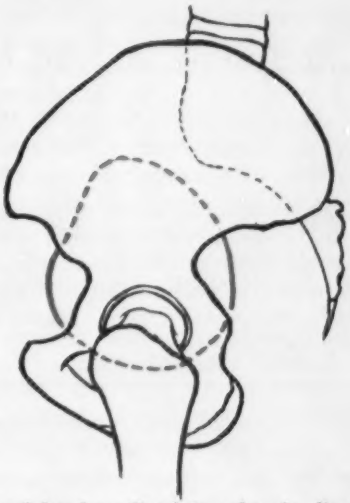
Descent of the fetal head may be accomplished by engagement of bitemporal or bifrontal diameters in the narrowed plane while the biparietal diameter passes in front or behind. Therefore, simple descent of the fetal occiput in anterior positions or early anterior rotation of transverse or posterior positions above the spines need not be seriously interfered with. If the occipitotransverse or occipitoposterior positions descend further before rotation, engagement of smaller diam-

eters than the biparietal in the narrow plane may still permit anterior rotation on the pelvic floor.

Occasionally, manual or forceps rotation is used in the second stage. However, when the sidewalls are considerably narrowed, operative rotation is unwise; instead, the occiput should be delivered as a posterior or rotation carried out with head either above the inlet or on the perineal floor.

Funnel pelvis is rare in dolichopellic-anthropoid types. When both midplane and outlet diameters are narrow, manual or forceps maneuvers are difficult. An exaggerated lithotomy position may aid progress. Although forceps should not be used until the vertex has reached the pelvic floor, failing maternal strength or fetal distress may necessitate a midforceps delivery, which will probably be difficult and traumatic, or a cesarean section.

Cesarean section should not be done solely because the roentgenographic pelvimetry report shows that midplane dimensions are below index figures considered adequate.



Fetal head, outlined in color, in direct occipitoanterior position

Nor is delivery from below always necessary for a fetal vertex that has passed the inlet and descended deeply into the pelvis. Trial labor, possible use of forceps, and recourse to cesarean section, if ultimately necessary, can usually be carried out for vertex presentations in long oval pelves.

¶ NEONATAL DEPRESSION consequent to maternal sedation before delivery may be prevented or successfully treated with *N*-allylnormorphine. When 10 mg. of the drug is injected into the mother antepartum, James E. Eckenhoff, M.D., George L. Hoffman, Jr., M.D., and Lonnie W. Funderburg, M.D., of the University of Pennsylvania, Philadelphia, find a significant reduction in the need for resuscitation and in the time required to gasp and breathe in infants born of parturients given opiates. The substance is less efficacious after nitrous oxide anesthesia and is ineffective after administration of ether. In 11 of 12 apneic babies the response was dramatic when from 0.1 to 0.2 mg. of normorphine was injected into the umbilical cord five to ten minutes post partum.

Am. J. Obst. & Gynec. 65:1269-1275, 1953.

Carcinoma of the Ovary

WARREN H. PEARSE, M.D., AND S. J. BEHRMAN, M.B.
University of Michigan, Ann Arbor

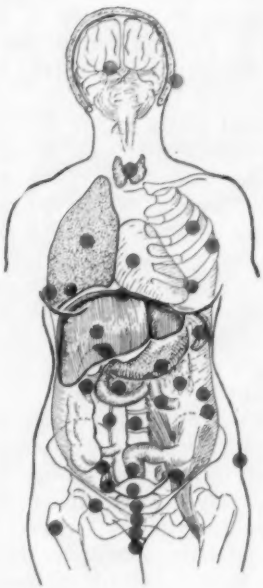
*Early diagnosis by means of periodic pelvic examination is essential to increased survival with carcinoma of the ovary, as onset is insidious and, when symptoms appear, prognosis is poor.**

SYMPTOMS of ovarian carcinoma are frequently multiple. Vague digestive and urinary disturbances may precede the more obvious complaints of abdominal swelling and pain, vaginal bleeding, and weight loss.

Physical findings may not be apparent with malignant disease. The most frequent findings include ovarian mass, ascites, frozen pelvis, and pelvic nodulation. Metastases are common and may be the first indication of neoplasm.

In a review of 262 cases of ovarian malignant disease during 1931-52, most were either serous or pseudomucinous cystadenocarcinomas. Ages of patients ranged from 13 years to 104, with most of the cases occurring between the ages of 40 and 65. In the patients under 30, malignant teratomas, dysgerminomas, and hormone-producing tumors comprised the majority of neoplasms.

Menstrual irregularity was reported in about 22% of patients. Although the infertility rate was



LOCATION OF METASTASES
(378)

Lymph glands	48	Lungs	12
Breast	1	Pleura	13
Pericardium	1	Ribs	3
Peritoneal carcinomatosis	77	Muscles	3
		Skin	9
Peritoneal metastases	40	Diaphragm	5
		Liver	30
Stomach	5	Spleen	5
Omentum	23	Pancreas	2
Bowel	28	Adrenal	4
Appendix	1	Kidney	3
Rectum	3	Ureter	7
Spine	4	Bladder	5
Ilium	1	Uterus	16
Femur	3	Tubes	2
Brain	3	Cervix	3
Skull	3	Vagina	13
Thyroid	1	Vulva	1

*Carcinoma of the ovary. Obst. & Gynec. 3:32-45, 1954.

somewhat higher than in the general population, 3 patients with ovarian carcinoma were pregnant.

Family histories were available for 213 of the patients; 92 of these patients reported carcinoma in other members of the family.

Patient delay from onset of symptoms until medical care was first sought was about nine months. Physician delay previously has been reported to be about nine and a half months, delay being due to failure to perform pelvic examinations in over half the cases. However, examination does not assure diagnosis, since carcinoma was suspected after pelvic examination in only 55% of the reported cases; the usual preoperative diagnosis was uterine myoma.

Prognosis of ovarian carcinoma is poor. In the reported group of patients the absolute five-year survival rate was approximately 21% and the ten-year rate about 14%.

Classification of ovarian carcinoma according to the Helsel grouping permits understanding of the extent of disease and offers a logical approach to therapy. Present results favor total hysterectomy with bilateral salpingo-oophorectomy and postoperative irradiation.

Function of Amniotic Fluid

R. G. HARRISON, D.M., AND PERCY MALPAS, F.R.C.S., UNIVERSITY OF LIVERPOOL, ENGLAND, assert that the volume of amniotic fluid is proportional to the size of the fetus and that the fluid increases in volume in correlation with fetal growth. The positive correlation suggests that the fluid is produced directly by the fetal skin. The increase in liquor may be anticipatory, a constant relative hydramnios being maintained during the first half of pregnancy.

The function of the amniotic fluid is probably to provide a distention growth stimulus to the uterus until the fetal volume is sufficient for stimulation. Also, the amniotic fluid appears to ensure that the uterine contractions remain isometric, since the myometrium is ready to contract immediately whenever the conceptus volume falls. Thus, uterine inhibition, upon which the continuance of pregnancy depends, seems to be at least partially mechanical.

The sequence of events in spontaneous abortion, then, may be as follows: Impairment or faulty development of the fetus leads first to a lag in the secretion of liquor and later to an absolute decrease in fluid volume. As a result, the distention growth stimulus fails. The reduced quantity of amniotic fluid does not inhibit uterine contractions. The uterine muscle then progressively contracts and retracts and the intrauterine pressure rises. The build-up of uterine retraction proceeds until a critical point is reached, the internal os opens, and abortion becomes inevitable.

The volume of human amniotic fluid. J. Obst. & Gynec. Brit. Emp. 60:632-639, 1953.

DIAGNOSIS of LARYNGEAL CANCER

STANTON A. FRIEDBERG, M.D., AND LINDEN J. WALLNER, M.D.
Presbyterian Hospital, Chicago

*A persistently hoarse voice, leukoplakic vocal cord, or pain on swallowing should at once arouse suspicion of laryngeal cancer.**

PATIENTS with actual or incipient tumor are too often dismissed after cursory examination and superficial treatment with sprays, gargles, lozenges, and the like. Consequently, carcinoma is unrecognized for periods of seven months to more than a year after onset.

Diagnosis may be difficult for several reasons. Some growths are masked by apparently benign conditions, and others cause few or no symptoms even when far advanced. Some growths imitate laryngeal tuberculosis, and time may be lost in antibiotic therapy.

All questionable lesions should be investigated thoroughly and watched closely. Biopsy must be done at least once and perhaps repeatedly. Indirect, direct, or suspension laryngoscopy, routine radiography, and planigraphy may be advisable.

Endolaryngeal removal may be adequate for small localized lesions. In other instances, part or all of the larynx may be excised, with or without block dissection of the neck. Irradiation has a definite place but is less useful than surgery and, in some cases, should not be used.

As a guide to therapy and probable course, laryngeal carcinomas are divided into 4 main types according to site of origin. Of 116 cases observed in five years, chiefly in men, 27% were cordal, 15% endolaryngeal, 8% subglottic, and 50% extracordal or extrinsic. Results of treatment were best in the first category, worst in the last.

Cordal cancer is confined to either or both of the true vocal cords. Mobility is not affected, although the anterior commissure may be traversed.

Chronic laryngitis is a predisposing factor, and generally the voice has been over- or misused. Almost all persons with cord cancer smoke, in contrast to 74% of the general population, and about two-thirds consume more than 1 pack of cigarets daily.

Epithelial hyperplasia may be precancerous whether appearing as

*Selected problems in the diagnosis of laryngeal carcinoma. Tr. Am. Acad. Ophth. 57:539-554, 1953.

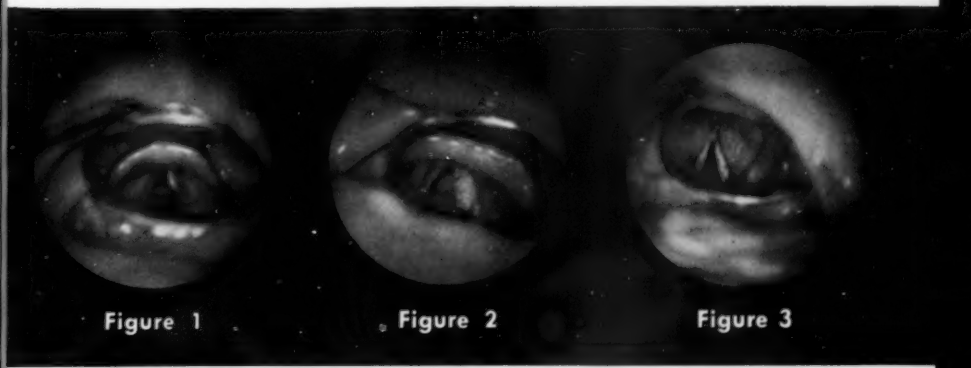


Figure 1 Figure 2 Figure 3

Fig. 1. Keratosis of the larynx involving anterior half of left true cord. No recurrence three years after removal.

Fig. 2. Extensive hyperkeratotic papilloma of left true cord.

Fig. 3. Larynx of a patient who had smoked excessively for fifty-four years. Bilateral leukoplakia, with subglottic mass at anterior commissure which yielded positive biopsy for carcinoma.

keratosis, the whitish pebbly irregularity of pachydermia, or especially leukoplakia, evident with 3 of 5 cordal carcinomas. The intimate relationship can hardly be overstressed, particularly since the behavior of supposedly benign lesions cannot be forecast.

Although 1 type can be excised and will not recur, a second will reappear in the same form, a third will become malignant slowly, and a fourth with great speed.

For example, cordal cancer has been found after eight years of hoarseness and six years after stripping of a leukoplakic area. On the other hand, carcinoma may be discovered only three months after the first vocal change. In 20% of cases, symptoms are neglected for years.

Biopsies of a leukoplakic region may be difficult to evaluate. If cancer is reasonably likely, even though not proved, operation may be justified.

The prognosis for cancer of the true vocal cord is excellent, owing to prompt effect on the voice and scant lymphatic drainage from involved parts.

Treatment is comprised of endolaryngeal removal of small lesions, irradiation, and incomplete or total laryngectomy.

Endolaryngeal cancer involves the true vocal cord and the ven-

tricle, ventricular band, or immediate subglottic region. In most instances the true cord is fixed, or motion is impaired.

In addition to hoarseness, some discomfort may be noted. Tumor is discovered about nine months after symptoms begin, but as a rule cervical nodes are not palpable at that stage.

The neoplasm may be much larger than is apparent and therefore must be examined meticulously and repeatedly. The suspension laryngoscope and other self-retaining instruments are invaluable for unhurried exploration. To show all malignant tissue, both conventional radiograms and planigrams should be made.

Cordal lesions with limited ventricular or subglottic involvement may be removed by wide-field laryngectomy, but more extensive growth requires dissection of the neck.

Subglottic cancer may spread to the vocal band or into the upper trachea. Hoarseness and occasionally dyspnea develop, and emergency tracheotomy may be required. However, no symptoms are observed until the vocal cord is invaded or the airway narrowed, and the cancer may exist over a year before detection.

Fig. 4. Leukoplakia and infiltration of anterior portion of right true cord in a heavy smoker. Right cord had been stripped for leukoplakia six years previously. Biopsy showed carcinoma.

Fig. 5. Leukoplakia and infiltration of right true cord of an excessive smoker with hoarseness for three months. Biopsy disclosed carcinoma arising in leukoplakia.

Fig. 6. Cordal carcinoma, with lesion limited to anterior half of left true cord. Normal mobility. No recurrence after thyrotomy in which involved side, anterior commissure, and part of opposite cord were excised.

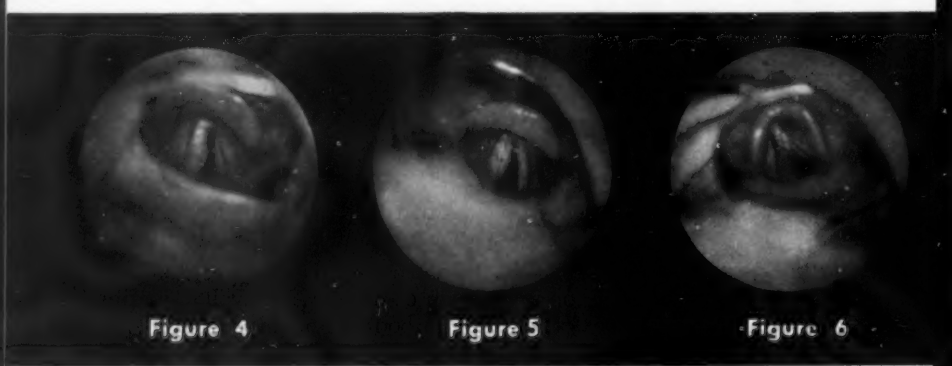


Figure 4 Figure 5 Figure 6

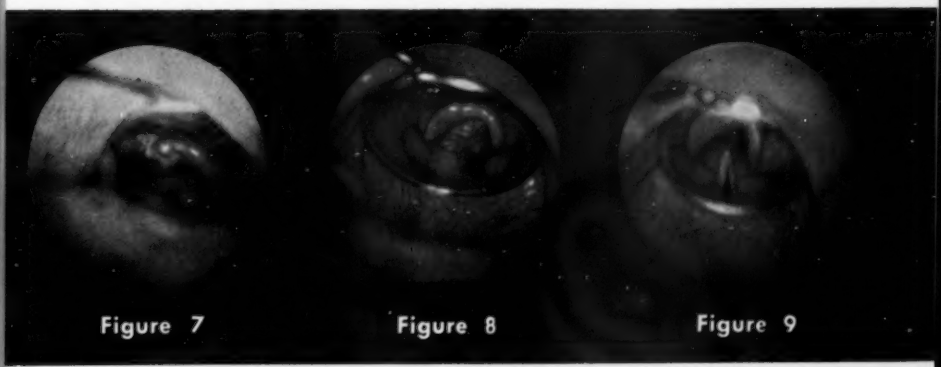


Figure 7 Figure 8 Figure 9

Fig. 7. Lesion of the epiglottis of patient with pulmonary tuberculosis, discovered when patient requested removal of ear wax. Biopsy showed carcinoma.

Fig. 8. Proliferative carcinoma on laryngeal surface of epiglottis in patient with diabetes, gangrene, and severe cardiac disease.

Fig. 9. Postirradiation view of larynx in Figure 8. All evidence of tumor has disappeared, with no recurrence for three years.

Lesions are not always seen in the mirror but may be revealed by painstaking direct laryngoscopy or planigraphy.

Because of the frequent delay in diagnosis and rich lymphatic drainage, laryngectomy should be performed, and in some instances block dissection of the neck. Not only is radiation now considered ineffective, but the large doses required for tumor may destroy adjacent tissue, causing severe pain and eventual death.

Extracordal cancer may originate in the epiglottis, arytenoid, aryepiglottic fold, or piriform sinus. Since management differs from that of other laryngeal cancers and the outlook is less favorable, extrinsic lesions must be sharply differentiated. About 1 of 3 patients has cervical metastases when first seen.

Most growths develop silently or with few symptoms. Most common are unpleasant feelings in the throat, such as dysphagia, local pain, or a foreign body sensation. Yet painless swelling may be the only clue, and some tumors are found by accident during care of unrelated disease.

Irradiation may be remarkably effective, but results in a particular case are unpredictable, and the best over-all results do not compare with the surgical figures. The patients most suitable for operation are like-

ly to improve with irradiation also.

Affected tissues are removed en bloc, and even more radical procedures, including resection of the pharynx and esophagus, are sometimes recommended.

Prospects for recovery probably will not improve appreciably until some new test for cancer makes earlier diagnosis possible.

Tuberculosis of the larynx should be considered if local infiltration, ulcer, or tumor is noted in a person with known pulmonary infection. Almost any tuberculous lesion can be matched in appearance by malignant growth, and vice versa.

Moreover, frequencies are highest at approximately the same period of life. Either disease can be diffuse and bilateral or localized and unilateral, but cancer immobilizes the vocal cord sooner. Laryngeal tuberculosis apparently does not predispose to malignant change, and the 2 diseases almost never involve a single larynx.

When either tuberculosis or carcinoma is suspected, a trial of antibiotic therapy may waste precious time, and biopsy should be done immediately. The procedure is no longer dangerous in case of infection, for tissues protected by streptomycin heal rapidly without ulceration.

Fig. 10. Extensive carcinoma of left piriform sinus in a patient with painless cervical node and no other symptoms.

Fig. 11. Infiltration and ulceration of right arytenoid in patient with symptoms of two weeks' duration. Biopsy revealed squamous-cell carcinoma.

Fig. 12. Infiltration and ulceration of left arytenoid and aryepiglottic fold in a patient with pulmonary tuberculosis. Lesion completely disappeared after streptomycin therapy.

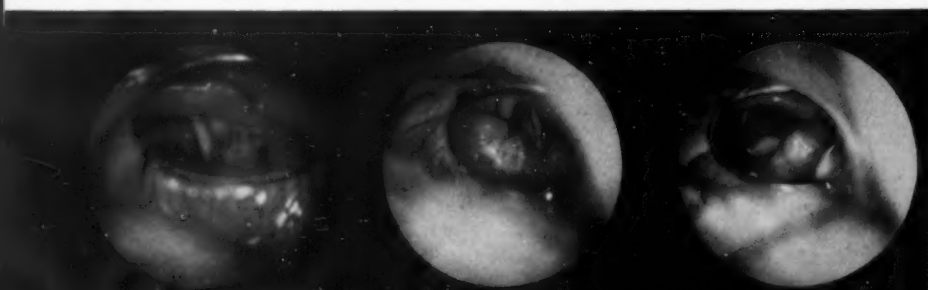


Figure 10 Figure 11 Figure 12

Therapy of deQuervain's Disease

TIMOTHY A. LAMPHIER, M.D., AND N. GILMORE LONG, M.D.
Boston

TIMOTHY DENNEHY, M.D.
Cleveland

*Stenosing tenosynovitis that involves the abductor pollicis longus and extensor pollicis brevis, referred to as deQuervain's disease, may be relieved by removal of a portion of the constricting tendon sheath.**

TENDONS of the abductor pollicis longus and extensor pollicis brevis occupy the first compartment on the dorsum of the wrist over the radial styloid process. The abductor pollicis longus tendon is subject to direct tension and to sharp angulations in various motions of the wrist and in abduction of the thumb. Because of the divergence of the 2 tendons, considerable tension is exerted on the fibrous sheath when the thumb is abducted or extended.

Stenosing tenosynovitis is apparently secondary to the repetition of initiating minor strains, especially in manual workers who pinch with the thumb while moving the wrist. Repeated movement of the wrist in ulnar abduction with the thumb fixed causes the tendons to become taut over the radial styloid process and press upon the tendon sheath.

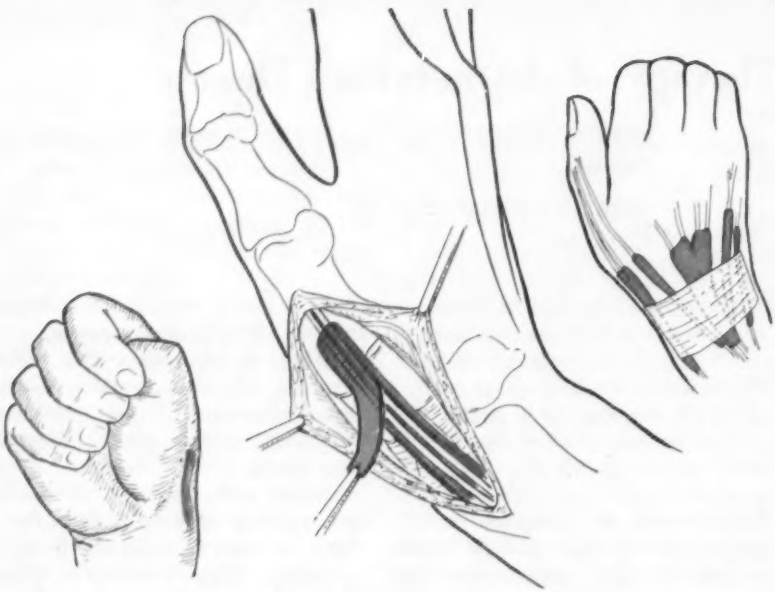
Serous effusion occurs within the tendon sheath and may progress to pronounced thickening of dense fibrous layers with hyaline degeneration. The process may be progressive or stationary but never resolves. Continued tendon motion through the constricting area seems to cause further proliferation of scar tissue.

Onset of symptoms is usually gradual but may be acute after a blow or sudden strain of lifting or gripping. Slight swelling occurs in the region of the tendon sheath, accompanied by pain radiating down into the thumb and up into the forearm from the radial styloid process. Pain is noted with movement of the thumb and wrist, and objects cannot be grasped firmly.

The Finkelstein test is positive in deQuervain's disease. Pain ensues when the fingers clasp the thumb in an opposed position and the wrist is deviated toward the ulna.

Roentgenograms are not helpful except in the differential diagnosis. Tuberculous tenosynovitis or osteitis, gout, gonorrhea, syphilis, rheumatic diseases, neuritis, wrist sprain, hypertrophic arthritis, ganglions, fractures, and periostitis should be considered. Sprain of the exterior lateral ligament is difficult to distinguish.

*DeQuervain's disease. Ann. Surg. 138:832-840, 1953.



Left. Finkelstein test, with thumb opposed and clasped by fingers. *Center.* Removal of constricting tendon sheath. *Right.* Anatomy of tendon sheaths and dorsal retinaculum.

Excision of a part of the tendon sheath relieves the signs and symptoms of deQuervain's disease. When intravenous Pentothal anesthesia is used, tissues are not distorted and the procedure is completed in a few minutes. A bloodless field is maintained during surgery by use of a pneumatic tourniquet. After the extremity is prepared with ether and Zephiran, the hand and wrist are draped with a stockinet to maintain sterility and asepsis. A longitudinal incision is made across the anatomic snuffbox, with the center over the tip of the styloid process. Skin flaps, subcutaneous fascia, and fat are elevated laterally to protect cutaneous branch of radial nerve.

After division of the dorsal carpal ligament, the entire fibrosed tendon sheath is exposed. The proximal and distal aspects of the constriction are identified and the sheath is divided longitudinally, allowing the tendon to resume normal shape. Injury to the tendon or epitenon should be avoided. As much of the divided edges as possible is trimmed away to prevent any recurrence of symptoms.

The skin edges are approximated, and a firm gauze and elastic bandage is applied. No splints should be employed, since motion and use of the thumb for all purposes is encouraged on the first postoperative day.

Comminuted Wrist Fractures

E. O. GECKELER, M.D.
Hahnemann Medical College, Philadelphia

*When fracture of the distal radius is comminuted and involves the wrist joint, differentiation from Colles' fractures is essential and traction-transfixion is applied.**

THE term Colles' fracture should not be used for all breaks in the lower end of the radius. The typical Colles' fracture occurs 1½ in. above the carpal extremity of the radius, and a characteristic deformity is produced by posterior displacement of the distal fragment. Such fractures above the wrist joint are usually not troublesome and can be treated without difficulty by manipulation and some type of splinting.

However, a distal comminuted fracture can occur with extension into the wrist joint. This break is even more common than the true Colles' fracture.

The bone fragments are crushed and manipulation may increase the damage to the spongy bone without correcting the displacement. Satisfactory immobilization is difficult even after reduction, since the break is not stable and will redisplace readily. Roentgenograms may show good reduction after the application of plaster, but a recurrence of the deformity is evident when the cast is removed.

Poor functional results and deformity can follow the failure to differentiate the comminuted break from a typical Colles' fracture, because the appropriate therapy is quite different. Much variation in treatment exists, but a standardized method must include complete reduction and adequate fixation for a satisfactory end result.

With the patient lying supine and with the elbow of the affected arm held flexed in an upright position, vertical traction is applied on the radius with a finger trap attached to the thumb. The traction corrects the radial shortening and the ulnar shift at the wrist.

While the traction is being maintained, a medium-thickness Kirschner wire is passed transversely through the metacarpal bone of the thumb. A similar wire is drilled through the upper part of the shaft of the ulna.

Sheet cotton bandages are applied, followed by plaster, in such a fashion as to include both the wires. The cast should extend from the flexion crease of the elbow to the metacarpophalangeal joints, the wrist being fixed in a normal position. Neither the elbow nor the end joint of the thumb is included. After

*Treatment of comminuted Colles' fracture. J. Internat. Coll. Surgeons 20:596-601, 1953.

hardening of the plaster, the traction is released from the thumb.

Since remarkably free range of motion of the thumb and fingers is possible and the elbow is not restricted, little after care is needed. Because of the decided tendency of the fragments to shift, with deformity recurrence, the cast should not be changed.

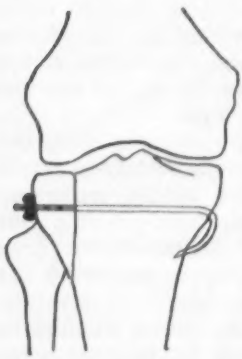
The cast and wires are removed after eight weeks, when the break is united. An anterior splint and an Ace bandage are then worn part of the time for an additional two weeks.

Satisfactory reduction and good function attend this method of treatment. Pain and swelling are relieved from the beginning of therapy, and complications do not occur.

Positive Pressure for Tibial Fractures

LOUIS SPIGELMAN, M.D., COLLEGE OF MEDICAL EVANGELISTS, LOS ANGELES, reports that the application of positive pressure to plateau fractures of the tibia by means of a simple internal cantilever spring hastens osseous fusion.

The procedure was employed successfully for 3 patients. Casts and sutures were removed in ten days and active movement of the knee was then started. Range of motion was almost complete in all cases. The first 2 patients were back at work in approximately ten weeks; the third was permitted complete weight-bearing three weeks after the operation.



The depressed fragment is elevated through a 2-in. lateral incision. The threaded wire is drilled through both fragments via a 2-in. medial incision. The spear point on the medial aspect of the condyle is bent to a large U.

The U portion is driven into the bone with a mallet until the point engages the cortex. The nut is threaded on the wire and tightened until the spring is under tension (see illustration).

Washers prevent the ends of the pin from sinking into the bone. Excess wire is removed and closure made.

The length of the U, the diameter of the wire, the metal employed, and the use of different sizes of washers and nuts produce variations in the amount of tension. Some variables cannot be estimated exactly because of the nature and reaction of living tissue.

Positive pressure in the reduction of fractures of the tibial condyles. J. Bone & Joint Surg. 35-A:696-700, 1953.

Therapy for Hematogenous Osteomyelitis

JOSEPH BUCHMAN, M.D., AND RICHARD L. FENTON, M.D.
Hospital for Joint Diseases, New York City

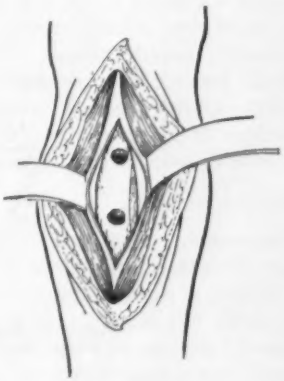
*Antibiotics often prove inadequate for treatment of acute hematogenous osteomyelitis.**

IF surgery is withheld in acute phases of osteomyelitic disease, a chronic lesion may develop. Surgical decompression and evacuation of the focus within the bone must be done when the osteomyelitic infection does not subside promptly with systemic therapy.

Acute hematogenous osteomyelitis presents both local and systemic aspects, and effective therapy must provide for both. The systemic elements are usually affected favorably by antibiotics.

PROBLEM

Local elements are frequently refractory to antibiotics since the lesions are associated with necrosis and suppuration and are walled off by peripheral thromboarteritis and thrombophlebitis with the resultant diminution and later cessation of blood circulation. Consequently, therapeutic agents in the blood stream cannot penetrate to the area in sufficient concentration and may even augment resistance to therapy because of insufficient concentration.



The acute local osteomyelitic lesion increases in size as time progresses. Pressure on blood vessels results in massive metaphysial and diaphysial bone necrosis, with the abscess eventually evacuating into the subperiosteal space, producing further necrosis of osseous tissue. The local lesion remains as a focal point for production of toxins, unaffected by antibiotics.

• Antibiotic therapy for acute hematogenous osteomyelitis will, in some instances, cause complete subsidence before any roentgen evidence of a disease focus can be demonstrated. Such aborted lesions represent ideal results.

• In other cases, the systemic manifestations subside as does a roentgenographically demonstrable local lesion. Bone appearance becomes

*The role of the surgical approach in the treatment of acute hematogenous osteomyelitis with antibiotic agents. New York J. Med. 53:2632-2642, 1953.

normal, but the regression cannot always be accurately foretold.

• Local symptoms persist and increase in some individuals despite subsidence of the systemic part of the disease. Timely surgical evacuation of the pocket will frequently result in a cure of the lesion, and a later normal-appearing bone.

• Systemic manifestations, as well as local lesions, may remain completely uninfluenced by antibiotic treatment in some patients. Operative intervention is then lifesaving.

THERAPEUTIC PLAN

Terramycin, 500 mg. every six hours, should be started as soon as the patient is examined and laboratory work has been done. A compression bandage of sheet wadding, flannel, and adhesive is used to immobilize the affected part.

If local swelling, heat, tenderness, and muscle spasm persist for several days in spite of antibiotic therapy, surgery is necessary, even though systemic elements have improved. The operation is done earlier if the systemic aspect does not improve or if the onset is of longer duration.

OPERATION

An incision is made along anatomic planes to expose the involved bone. The periosteum is incised and elevated, and the bone is drilled. A small window is made wherever pus or sanguinopurulent fluid is found, and the area is evacuated. The wound is washed and flooded with a Terramycin solution and is then closed in layers without drainage.

After closure, Terramycin solution is injected into the wound, and a dressing wet with the solution is applied. The immobilizing bandage is again put in place for ten days, and systemic Terramycin is continued postoperatively.

¶ PHYSIOLOGIC GENU VARUM in infants may persist until the fourth or fifth year. The roentgenograms of all of 14 patients studied by John F. Holt, M.D., Howard B. Latourette, M.D., and Ernest H. Watson, M.D., of the University of Michigan, Ann Arbor, showed thickening of the femoral and tibial inner diaphyseal cortex proportionate to the degree of bowing. In such cases, the medially directed apex of each epiphysis of the femur is triangular rather than oval and often appears fragmented. Similar alterations in shape are less frequent in the tibia. Accentuated flaring of the medial metaphyses always appears at the knees; the changes are more evident in the thighbone and in some instances seem to be actual bony overgrowth. Internal angulation of the distal metaphysis of the shinbone and slight wedging of the adjacent epiphysis are often associated with the outward bowing. The findings are incompatible with any disease, the subjects are normal, and regression is spontaneous.

J.A.M.A. 154:390-394, 1954.

Treatment of Congenital Hip Dislocation

GARRETT PIPKIN, M.D.
Kansas City, Mo.

*A pillow splint is a practical, atraumatic method for reducing congenital hip dislocations at home, and an abduction–internal rotation splint will maintain the reduction until the hip becomes stable.**

BESIDES allowing child to stay with parents, a pillow splint enhances probability of symmetric legs after unilateral dislocation, reduces occurrence of avascular necrosis, and eliminates the need for secondary rotation osteotomies. The pillow, which is folded into the groin and pinned by the mother, is easily managed (Fig. 1).

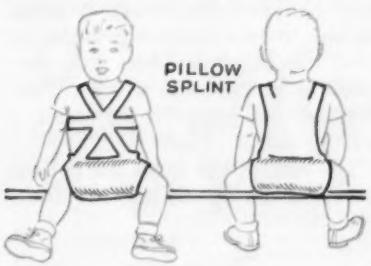


Figure 1

To utilize this method, the diagnosis must be made at an early age. The condition should be obvious from variations in skin folds in the gluteal area. Nurses should at least suspect the disease when limited motion interferes with application of a diaper (Fig. 2).

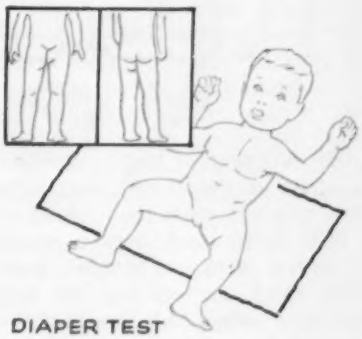


Figure 2

Simple luxations and early posterior dislocations are readily corrected by pillow-splint treatment. Anterior congenital dislocation is rare and requires different therapy.

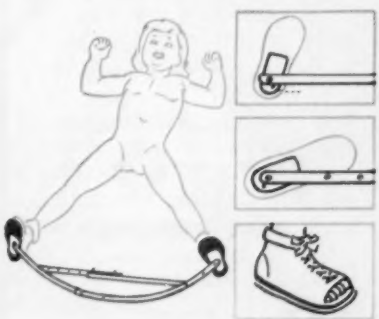


Figure 3

*Congenital dislocation of hips. Missouri Med. 51:29-33, 1954.

Figure 4

The pillow splint can be removed as often as necessary. Successive daily changes, each time taking up a little more slack over a period of several weeks or months, gradually bring the legs into the frog position. When this position has been effected, roentgenograms show that the reduction has spontaneously occurred in a significant number of cases.

No damage is caused if the hip is brought into neutral from the abducted position during changing, but the importance of continuous frog position must be impressed upon the mother.

At about 1 year of age, the child will attempt to stand and walk. Excellent reduction and development of the femoral head and acetabulum may occur with no treatment other than walking with the pillow splint.

When the child is about 1 year old and can wear a shoe, an abduction–internal rotation splint is employed (Fig. 3). The hips should be maintained in wide abduction and internal rotation until ball and socket are well developed. The splint should be on continuously, except for baths and exercise periods not involving weight bearing, for one to two years depending on serial roentgenographic examinations. Since the child will eventually stand and jump on the splint, a bracing bar is added.

The toes of the shoes are cut out to expose the tips of the toes so the

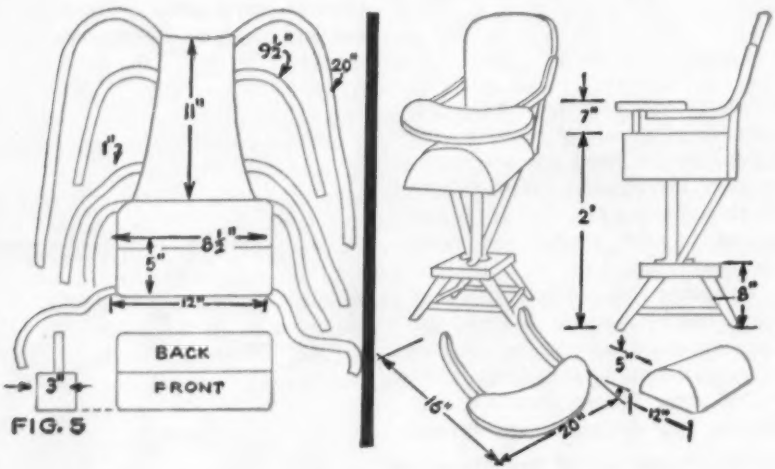


FIG. 5

parent can readily determine if the foot is correctly placed (Fig. 3). The shoes should be laced loosely to prevent circulatory embarrassment.

The active child soon learns to sit and crawl with the knees flexed, even though the splint is very wide. Such activity prevents atrophy and the extremities remain symmetric. Slight knock knee develops which can later be corrected with an inner heel wedge.

When the serial roentgenograms show the reduction is stable, weight bearing is gradually permitted without the splint, until the splint is worn only at night. Night splinting is advisable until the child is 4 years of age. For unilateral cases, when weight is borne without the splint, a lift is used on the opposite shoe to tilt the pelvis (Fig. 4).

When an adequate acetabulum and femoral head without rotational neck deformity develop, the splinting can be terminated.

The pillow splint can be purchased or made, and child furniture, such as high chairs, can be built to accommodate the pillow and abduction splints (Fig. 5).

Incidence of Childhood Dermatoses

HENRY HARRIS PERLMAN, M.D., SKIN AND CANCER HOSPITAL, PHILADELPHIA, finds that, contrary to popular belief, impetigo contagiosa is not the most common skin disease among children. In the outpatient dermatology clinic of a large city hospital, tinea capitis was the most frequent skin condition seen. Next in order of incidence were atopic dermatitis, impetigo contagiosa and pyoderma, scabies, dermatitis venenata, nevi and angioma, seborrheic dermatitis of scalp and body, verruca, pediculosis capitis, and urticaria and lichen urticatus.

Alopecia areata, dermatophytosis, insect bites, and psoriasis, although less numerous, can be classified as common dermatoses.

The frequency of such disorders in a pediatric dermatology clinic was determined by reviewing records of patients over a period of about fourteen months.

Most ringworm cases are caused by *Microsporum audouini* and the majority occur at school age. In only 10 of over 220 instances was more than 1 member of a family afflicted.

Atopic dermatitis predominates in the eczema group. Cases are evenly divided as to sex and 50% occur during the first two years of life.

Among staphylococcic and streptococcic infections, impetigo contagiosa and pyoderma comprise most of the cases.

Diaper rash and miliaria are rather infrequent.

The incidence of dermatoses among infants and children as seen in the outpatient clinic at a skin hospital in a large city. J. Pediat. 42:700-706, 1953.

Infantile Renal Acidosis

R. LIGHTWOOD, M.D., W. W. PAYNE, M.B.,
AND J. A. BLACK, M.D.
Hospital for Sick Children, London

*When an infant fails to thrive, vomits, and has obstinate constipation associated with hyperchloremic acidosis with neutral or alkaline urine, renal acidosis is likely.**

THE symptoms of renal acidosis usually appear insidiously between the ages of 6 and 9 months. Most of the infants make good progress initially, then become apathetic. Failure to thrive over a considerable period is a constant symptom, and often weight is actually lost. The baby has anorexia and feedings are seldom finished. Many of the patients will vomit irregularly. Constipation is common. A less constant symptom is change in temperament shown by apathy or irritability.

Usually no physical abnormalities are found. When the condition is severe, the infant is wasted, often listless, with considerable hypotonia of skeletal muscles. Tissue turgor is lost. Hard fecal masses are often felt in the abdomen or per rectum.

The patients are often ready to drink simple fluids but refuse semisolid or solid foods. Occasionally the infant is almost moribund from acidosis and dehydration.

The plasma chloride is almost always raised above 108 mEq. per liter and the plasma bicarbonate is below 19 mEq. per liter. Blood urea is raised above 40 mg. per 100 cc. in over half the cases. When raised, the initial value is usually between 40 and 80 mg. per 100 cc.

The urine in most cases is alkaline with a small amount of protein. The patient with acid urine tends to be more ill and dehydrated than the average, but the urine becomes alkaline when the patient is adequately hydrated. A detailed analysis shows that acid specimens are never as acid as would be expected from the degree of acidosis found.

Specific gravity is usually between 1005 and 1010. Microscopic examination shows 5 to 10 white blood cells per high-power field and occasionally epithelial cells or granular casts. The urine is usually sterile; in some cases, slight infection is found, which ordinarily disappears with therapy.

Radiology is relatively unimportant in the diagnosis, because when nephrocalcinosis is not demonstrated, the diagnosis is not excluded since other conditions cause a similar radiologic appearance. With more advanced disease, fine particulate deposits with a fingerprint appearance are seen in the medullary regions.

The main symptoms of renal acidosis also appear in a variety of

*Infantile renal acidosis. Pediatrics 12:628-642, 1953.

other conditions, and the differential diagnosis includes feeding problems, pyloric stenosis, esophageal abnormalities, celiac disease, acrodynia, plumbism, tuberculous meningitis, pyelitis, metabolic disorders, vitamin D intoxication, and diabetes insipidus.

After dehydration is overcome, the patient's general condition may improve immediately. In a few cases, if the condition is slight, the child will slowly return to normal without any treatment except good nursing care.

For therapy, an alkalinizing mixture of sodium citrate, 10 gm., and citric acid, 6 gm., in 100 cc. of water is used. The initial dosage is 15 cc. four times daily. Blood studies are repeated after two weeks and the dose adjusted.

Any change of less than 10 cc. of the solution per day is ineffective. Satisfactory improvement in the infant's general condition seldom occurs unless the plasma bicarbonate is kept above 18 mEq. per liter. A normal gain in weight and a plasma bicarbonate level between 18 and 22 mEq. per liter should be aimed for rather than completely normal biochemical values. Once improvement begins, the results are usually striking.

Occasionally when therapy is started, an initial rapid improvement in the blood occurs, followed shortly by a relapse. If this happens, the dose is increased until acidosis is again controlled, but the alkali reserve must be watched so as not to produce alkalosis.

Slight diarrhea sometimes arises because of the high sodium citrate intake but usually stops if the dose is reduced and then increased more slowly. Diarrhea is less likely if the solution is given after feedings. Duration of therapy varies considerably, usually being between nine and twelve months.

Before treatment is stopped, the child should be gaining weight normally and the plasma bicarbonate should be above 20 mEq. per liter for at least three months. When reducing the dose of alkali, the dose is halved for two weeks and the blood chemistries examined. If values are satisfactory, the alkali is omitted for two weeks and then the blood is reexamined. Subsequently, the blood should be examined monthly.

Over a six-year period at the Hospital for Sick Children, London, 35 children with renal acidosis were studied. Although detailed investigation of possible etiologic factors was undertaken, no definite causes were determined.

EFFECTS OF THERAPY

Before Treatment	*Treatment*	*After Treatment*
Plasma chloride above 108 mEq. per liter	Sodium citrate, 10 gm., Citric acid, 6 gm., in 100 cc. water	Normal weight gain
Plasma bicarbonate below 19 mEq. per liter	Initial dosage 15 cc. four times daily	Plasma bicarbonate above 20 mEq. per liter
Blood urea above 40 mg. per 100 cc.		Normal blood chemistry values

Psychosomatic Eye Problems

EDWARD P. BURCH, M.D.
Miller Hospital, St. Paul

*Ocular symptoms without apparent organic bases may be psychoneurotic in origin.**

DISORDERS arising from mental shock, anxiety, or other emotional disturbances may produce actual structural change in the visual system. More often, however, severe tension headache or other symptoms referable to the eye will occur with no demonstrable disturbance of function.

Eye symptoms without organic change often constitute only minor aspects of a basic psychoneurotic condition. Mixed neuroses are common and differentiation between a psychoneurosis and psychosis may be difficult.

In addition to the eye examination, diagnosis of a psychoneurosis must be based on a careful estimate of the patient's personality. Time, patience, and an understanding but not overly sympathetic attitude are required. Methods of diagnosis must be dynamic and positive to avoid missing early phases of organic disease such as glaucoma, small punctate corneal lesions, and keratoconjunctivitis sicca. A patient suspected of psychoneurosis may have vertical phoria induced by poorly positioned lenses causing paresis of elevator or depressor extrinsic ocular muscles. Conversely, detection of an organic lesion does not exclude psychoneurosis.

MANIFESTATIONS

Anxiety neurosis may be exhibited by general symptoms of irritability, insomnia, vertigo, anorexia, depression, and bizarre sensations. Overactivity of the autonomic nervous system may be evident. The main symptom of anxiety may be ill-defined, diffuse, and constant or may occur paroxysmally, culminating in a state of panic. Specific phobias are common.

Rapid pulse, cold and clammy skin, exaggerated tendon reflexes, and dilated pupils are usually revealed by physical examination. The patient is irrationally fearful of blindness or a specific eye disease and, especially when myopic, is apprehensive of overstraining the eyes. Pain and headache are common.

Symptoms of neurasthenia include easy fatigability and lack of concentration and may arise from profound and intensified emotional crises. Lack of drive and ambition are notable. Headache, vertigo, and many symptoms referable to the gastrointestinal tract may occur.

Hysteria involving the eye is seen much less frequently than anxiety-

*Psychosomatic problems in ophthalmology. Canad. M. A. J. 70:9-17, 1954.

tension states or neurasthenic reactions. However, such patients reveal all degrees of impairment up to complete amaurosis. Along with motivated disregard of visual impressions, tubular fields, spiral contractions, or interlacing of color fields may be demonstrated. Anesthesia of cornea or conjunctiva is often manifest. Even when the refractive error is slight, the patient may recite symptoms from written notes and bring copies of old prescriptions or even a collection of old glasses.

TREATMENT

When a diagnosis of psychoneurosis is made, the most direct solution is referral to a specialist. However, adequate facilities for psychiatric treatment are not always available and the economic involvement is often prohibitive.

Both anxiety and neurasthenic reactions are often amenable to management by the ophthalmologist who is acquainted with basic psychiatric concepts. Topical conflicts of short duration frequently can be resolved by candidly informing the patient of their emotional nature, subsequently explaining the relationship of causative factors to the symptoms.

General semantics may be valuable as an ancillary measure when prescribed in direct relation to the patient's intelligence and educational background. After absorbing a reading course, the patient is requested to return for further discussions.

Hypochondriasis, conversion-hysterical reactions, and obsessive-ruminative-compulsion neurosis require expert and intensive psychotherapy; management of such conditions should not be attempted by the ophthalmologist.

Flicker Sickness

GEORGE A. ULETT, M.D., WASHINGTON UNIVERSITY, ST. LOUIS, remarks that exposure to intermittently flashing light, used to diagnose epilepsy and for photoshock therapy, can result in untoward symptoms, including dizziness and nausea, for the investigator and assistants as well as the patient. The sensations may persist for several hours. Personnel adversely affected by such intermittent photic stimulation should be protected by colored glasses or screen.

Of 306 persons exposed to flicker stimulus, 87 experienced some reaction such as visceral sensations, including nausea and headache, or kinesthetic sensations; 16 of this group had disturbances of consciousness, including fainting, syncope, and convulsive phenomena. Only 3 of 40 psychotic patients receiving photoshock had nausea, although in all cases the light stimulus, used with Azozol (4-cyclohexyl-3-ethyl-1,2,4-triazole), produced severe myoclonic reactions or generalized seizures.

Flicker sickness. Arch. Ophth. 50:685-687, 1953.

Uveitis in Children

SAMUEL J. KIMURA, M.D., MICHAEL J. HOGAN, M.D., AND PHILLIPS THYGESON, M.D.
University of California, San Francisco

*Even when good diagnostic facilities are available, the etiology of uveitis in children frequently remains undetermined.**

In children with anterior or posterior uveitis, presumptive or definitive etiologic diagnosis can be made in only about one-third of cases. The only frequent findings with anterior uveitis are allergic diathesis and constant eosinophilia, suggesting allergy as an important factor. In cases of posterior uveitis, toxoplasmosis is a determining factor.

In a study of 810 patients with uveitis, 47, or 5.8%, were under 16 years of age. Of these 47 children, 29 had posterior uveitis and 18 anterior uveitis. No instances of generalized uveitis occurred in this group.

The following data were collected for each patient:

- Brief medical history and detailed ophthalmic history
- Complete physical examination
- Detailed examination of the eyes, including slit-lamp biomicroscopic and funduscopic examination with pupils dilated
- Skin tests, including the tuberculin, Frei, toxoplasmin, coccidioidin, histoplasmin, and Brucellergen tests
- Serologic tests, including the *Toxoplasma* dye and complement-fixation tests, *Brucella* agglutination and complement-fixation tests, Q fever complement-fixation test, and the Kline and Kahn test for syphilis
- Neutralization test for toxoplasmosis
- White blood cell and differential counts
- Sedimentation rate
- Roentgenographic chest examination and special films of joints, skull, and phalanges, when indicated by the history or physical examination.

Etiologic diagnosis was made in 6 of the 18 cases of anterior uveitis. The following diseases were seen: heterochromic iridocyclitis, Boeck's sarcoidosis, syphilitic keratouveitis, traumatic iritis, Brucella keratouveitis, and juvenile rheumatoid iritis. The 12 cases of anterior uveitis of unknown etiology were of the cyclitis or nongranulomatous or granulomatous iridocyclitis type.

Of the 29 cases of posterior uveitis, presumptive diagnosis of toxoplasmosis was made in 10 cases of chorioretinitis; of the 19 cases that could not be diagnosed etiologically, chorioretinitis was active in only 7.

Frequently, chronic uveitis is thought to be associated with tuberculosis; however, no such cases were seen in this series. Similarly, some acute febrile diseases, particularly varicella, influenza, measles, and epidemic mumps, are occasionally followed by uveitis. None of the group had childhood exanthemas.

*Uveitis in children. Arch. Ophth. 51:80-88, 1954.

Electrolytes and Head Injury

G. HIGGINS, B.SC., WALPOLE LEWIN, M.S.,
J. R. P. O'BRIEN, M.A., AND W. H. TAYLOR, M.A.
Radcliffe Infirmary, Oxford, England

*Prevention and correction of fluid and electrolyte disturbances, particularly hyperchloremia, is an essential part of the management of head injuries.**

BIOCHEMICAL alterations may be expected in nearly 90% of patients with serious closed head injuries who are unconscious for more than twelve hours after the trauma and who require tube feeding.

Many of the disorders are transient and disappear without specific treatment. Proteinuria may be noted during the first twenty-four hours and continue in gradually decreasing amounts for two to six days. The initial blood-urea level may be high, usually reaching a peak in three days and then subsiding.

The plasma proteins may be decreased. A rise in the plasma protein in an unconscious patient may be a good prognostic sign and occasionally is one of the earliest indications of returning consciousness.

Transient glucosuria of the low renal-threshold type develops in about 30% of patients with head injuries remaining unconscious for at least twelve hours. Hyperglycemia with glucosuria may also appear after acute head trauma.

Major metabolic disturbances are of serious import. Hyperchloremia and hypochloruria may occur and appear related to inability of the kidney to excrete sodium and chloride ions. Hyperchloremia may be associated with damage to the undersurface of the frontal lobes. Treatment consists of restriction of sodium chloride, except for that in milk, together with the daily maintenance of a high fluid intake. Usually 3 pt. of milk, 3 or 4 pt. of water, and 300 gm. of glucose are given daily. A pint of Ringer-Fischer solution is cautiously substituted for a pint of water when plasma sodium and plasma chloride levels return to normal.

A syndrome of hypochloremia and hyperchloruria may result from head injury, especially if the patient is elderly, and develops gradually over a period of seven to twelve days after injury. The condition resembles Addison's disease in some respects but is not corrected by salt, DOCA, or cortisone.

Water deficiency is a well-recognized metabolic disorder consequent to head injury. Etiologic factors are inadequate fluid intake because of inability of the comatose patient to swallow and deliberate deprivation to reduce intracranial pressure. The condition may be accelerated by pyrexia and hyperpnea.

*Metabolic disorders in head injury. Lancet 266:61-67, 1954.

With severe head injury, particularly brain stem damage, irritation of the respiratory center may produce hyperpnea and respiratory alkalosis. Irreversible uremia of a renal type may occur.

Among 76 patients who were unconscious for at least twelve hours after closed head trauma, the overall death rate was 30%. None of the patients without electrolyte disturbances died. The mortality was 24% for patients who had transient metabolic disorders and 61% for those with major electrolyte disturbances. The mortality rate increased with age.

About half the deaths occurred during the first five days. Thereafter, the longer the period of coma, the smaller the proportion of deaths up until about forty days of coma had passed, when the mortality rate increased considerably.

Brain Cysts after Trauma

JUAN M. TAVERAS, M.D., AND JOSEPH RANSOHOFF, M.D., COLUMBIA UNIVERSITY AND NEUROLOGICAL INSTITUTE, NEW YORK CITY, believe that leptomeningeal cysts occurring after trauma are probably caused by rupture of the dura mater and herniation of the arachnoid into the fracture.

The cysts are fluid-filled spaces between the pia mater and arachnoid membrane. Piarachnoid adhesions prevent free communication between cyst and the remainder of the subarachnoid space. Localized erosion of the inner table of the skull occurs in the area overlying the cysts.

The diagnosis can usually be made from plain films of the skull. Almost pathognomonic are the findings, several months or years after a skull injury, of an elongated skull defect with scalloped margins and irregular sclerosis of the bone of both tables of the skull, usually in the posterior parietal region.

Treatment consists of excision of the cyst, repair of the dural aperture, and, if necessary, plating of the resulting bone defect. Since early diagnosis is important, repeated roentgenograms should be made of the skull at three-month intervals after skull fracture until the lesion heals.

In a group of 7 patients with the posttraumatic cysts, the average age at the time of injury was about 2½ years. The interval between injury and discovery of bone erosion by roentgenogram varied from four months to fourteen years, but was usually less than three years. Severe neurologic deficits occurred in 2 patients and 3 had preoperative convulsions. After surgical repair of the lesion, 2 of the latter became seizure-free.

Leptomeningeal cysts of the brain following trauma with erosion of the skull. J. Neurosurg. 10:233-241, 1953.

Medical Forum

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Segmental Gastric Resection*

QUESTION: Is segmental gastric resection a satisfactory operation for peptic ulcer?

Comment invited from

ROBERT S. SMITH, M.D.
FREDERICK S. CROSS, M.D.
DONALD J. FERGUSON, M.D.
OWEN H. WANGENSTEEN, M.D.
DAVID STATE, M.D.
W. B. GNAGI, M.D.
I. S. RAVDIN, M.D.
J. WILLIAM HINTON, M.D.

► TO THE EDITORS: The radical segmental gastric resection proposed by Drs. Lloyd D. MacLean, Warren Hamilton, and Thomas O. Murphy for the treatment of peptic ulcer is intriguing in that it represents a considerable departure from the well-tried Billroth II gastrectomy technic. To my mind, however, the segmental attack on the acid-secreting area of the stomach must offer some distinct advantages before being adopted as a preferred operative procedure.

Difficulties with duodenal stump healing after a Billroth II resection should be rare; recurrent ulceration should occur in only a small percentage of cases in which the distal 75 to 80% of the stomach has been removed. Nevertheless, a persistently subnormal weight level, anemia, postprandial discomfort, food intolerance, and a regurgitation of gastrointestinal secretions into the esophagus occur often enough after Billroth II resections to encourage a constantly receptive attitude toward new plans for the surgical management of peptic ulcer.

Reviewing the conclusions of the authors, it is noted that the operative mortality of radical segmental gastric resection with pyloroplasty is the same as that of Billroth II resections at the University of Minnesota during 1940-49. Considering the fact that the authors claim that the difficulties with duodenal stump healing are avoided with the new technic, it is surprising to note that no improvement over the Billroth II mortality rate of 2.7% has been reported.

Apparently the occurrence of early postprandial distress is about the same as that observed after Billroth II operations, although the severity of the attacks seems less in the group treated by segmental resection.

Food intolerance, weight loss, and anemia have all been noted after segmental surgery; but the convalescent period is reported to be about 25% shorter than that of the Billroth II group and most of

*MODERN MEDICINE, Nov. 1, 1953, p. 109.

these patients ultimately return to their former occupations.

If further experience indicates that radical segmental gastric resection will lead to an improvement in mortality rates and to a significant reduction in untoward postoperative alterations of function, I am sure that surgeons generally will be willing to accept the operation as a useful addition to their armamentarium.

ROBERT S. SMITH, M.D.
Boise

► TO THE EDITORS: It is difficult to say categorically at the present time whether or not segmental gastric resection is a satisfactory operation for peptic ulcer. However, certain points have come out from both the experimental and clinical approach to this question which indicate that segmental gastric resection is a sound operation for peptic ulcer and that it probably will withstand the test of time.

Experiments on dogs have shown that an adequate segmental gastric resection excising all of the stomach except the antrum and a small 10% fundic pouch with subsequent end-to-end anastomosis will protect against the histamine-provoked ulcer. Segmental resection has been criticized because the antrum is not excised as in the conventional types of gastric resection and therefore the gastric phase and gastric secretion are not eliminated. Experiments have also shown that this is not an important consideration when the antrum is left in continuity with the residual fundic pouch, as long as sufficient acid-secreting area has been excised. Nonexcision of the antrum becomes important only when the antrum is spatially separated from the residual stomach, as in an antral exclusion procedure, or when it is transplanted to the colon or small bowel, as has been done experimentally by Dragstedt.

Far more important than the favorable experimental evidence for segmental resection, however, are the clinical results being obtained in patients with this type of resection, as reported by Dr. MacLean and his associates. The mortality from this operation has been low and instances of recurrent ulceration have not been reported. Almost equally important is the fact that these patients do fairly well from a nutritional standpoint and most are able to carry on former occupations.

A modification of the segmental resection is being done at the present time, namely, an extensive fundusectomy with transverse approximation of the severed edges of the stomach which may prove better than the standard segmental resection. This operation physiologically will accomplish the same thing as segmental resection but is easier to do since the lesser curvature of the stomach is left intact and a more nearly normal stomach is obtained after resection.

As far as handling of the duodenum in severe scarring by means of a Heineke-Mikulicz pyloroplasty is concerned, Dr. Wangensteen remarks that he has never seen a duodenal stricture caused by an ul-

cer so severe that it cannot be handled by this technic. This in itself, of course, is a great advantage, because the problem of duodenal closure in the severely scarred duodenum is a real one when conventional gastric resections are utilized.

The principle of segmental gastric resection, either as described in the article by Dr. MacLean and associates or as done along the lines of an extensive fundusectomy, which Dr. Wangensteen is employing at the present time, appears to be a physiologically sound approach to the treatment of peptic ulcer. The final proof will come in long-term complete follow-up studies on this type of resection.

FREDERICK S. CROSS, M.D.
Cleveland

► TO THE EDITORS: When a patient comes to surgery for peptic ulcer, the main difficulties he faces are [1] operative complications, [2] recurrence, and [3] inability to eat normally after operation.

Segmental resection is one of several operative methods, based on present-day knowledge of gastric physiology, which has resulted in a negligible ulcer recurrence rate. The choice of segmental resection for use in a given case, therefore, depends on the other two factors just mentioned.

While statistics have as yet shown no improvement in operative mortality with use of the new procedure, there is no doubt that the hazard associated with closure of a badly indurated duodenum is avoided; the pyloroplasty can be done in spite of severe scarring and adherence to the pancreas and has been free of any complications. It is an advantage to be able to leave the pancreas undisturbed under these circumstances. The occasional trouble that occurs with twisting or kinking of the jejunal loop in Billroth II type anastomoses is also eliminated.

It is encouraging that postprandial distress is less of a problem after the segmental resection, according to the follow-up data of Dr. MacLean and his associates. These observations are supported by early (three- to ten-month) follow-up studies of 5 duodenal ulcer patients with segmental resection done at the Minneapolis Veterans Administration Hospital. Of the ulcers, 2 were bleeding at the time of operation, and 2 others had severe scarring and edema associated with posterior perforating craters. These patients had brief convalescences without complications, weight has been well maintained, and no roentgen or clinical evidence of recurrence has been noted. Moderately severe dumping symptoms appeared in 1 patient at first, but rapidly improved, with very little trouble after two months.

Although a final opinion will require longer observation, segmental resection apparently is an important advance, both as a technical alternative increasing the safety and ease of operation and as a means of reducing the incidence of severe dumping syndrome.

DONALD J. FERGUSON, M.D.
Minneapolis

► TO THE EDITORS: The report by Drs. MacLean, Hamilton, and Murphy on the results of segmental resection for peptic ulcer is timely. It is quite clear from this account that segmental resection provides excellent protection against recurrent peptic ulcer, an assurance that many of the operations devised to thwart the ulcer diathesis fail to provide.

The early protagonists of segmental resection—Mikulicz (1897), Riedel (1909), and Payr (1909)—failed to recognize that transverse division of the stomach vagotomized the antrum, with resultant gastric retention. As I indicated more than fifty years after Mikulicz' origination and rejection of the procedure (*J.A.M.A.* 149:18-23, 1952), I too had failed to anticipate the gastric retention effect of the operation and had to experience it to appreciate and understand it. However, the routine addition of a Heineke-Mikulicz pylorotomy readily overcame the difficulty with gastric emptying (see illustration).

In revising segmental gastric resection for peptic ulcer (*Tr. & Stud. Coll. Physicians Philadelphia* 18:1-16, 1950), I proposed leaving considerably less acid-secreting area in the gastric fundus than had Mikulicz, Riedel, or Payr. In fact, I proposed to leave only 10% of the acid-secreting portion of the stomach. Inasmuch as no recurrences of peptic ulcer have been observed after this procedure, it is not unlikely that it would be safe to leave slightly more of the fundic mucosa than was proposed originally.

TECHNIC

A

Sternotomy incision

B

Shaded areas show residual fundic pouch and pylorotomy incision. Area to be excised is 80% of entire stomach and 90% of acid-secreting area.

C

The greatest count of parietal cells is in the light area; few parietal cells are found in antrum.

D

Just beyond the pylorus are 2 ulcer craters; the long duodenoantral slit affords good visualization of the entire pyloric region.

E

Closure of the pylorotomy incision with 2 rows of sutures; site of application of the clamp for the distal line of resection

F

Beginning of anastomosis after excision of gastric tissue

G

Clamps have been reversed and the 2 corner stitches are placed.

H

Pouch opened and a few mucosal stitches placed. At this juncture, the indwelling duodenal tube, which was pulled back into the esophagus during operation, is pushed through the pyloroplasty well into the duodenum.

I and J

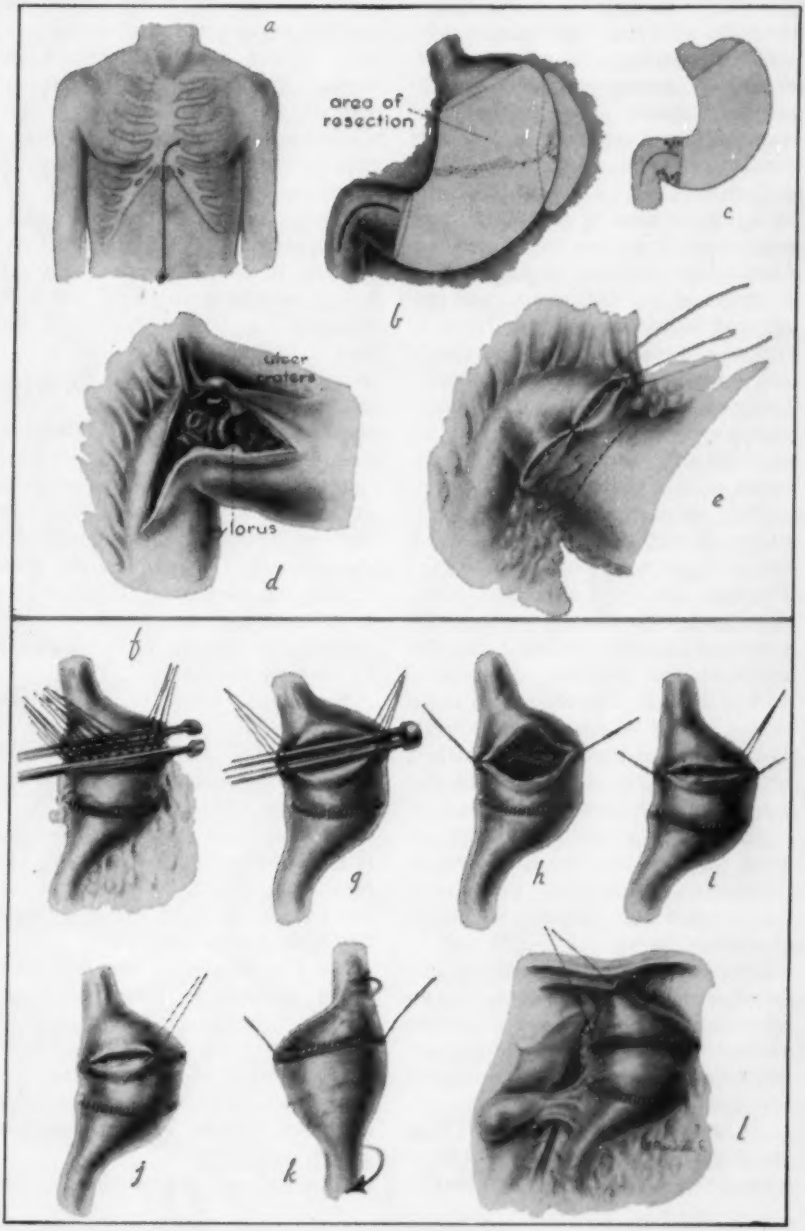
Completion of the anterior row

K

Rotation of the anastomosis to permit placement of a few more interrupted silk sutures in the posterior row from the outside

L

The completed anastomosis. The lesser curvature is attached by a few sutures to the hepatic margin of the hepatoduodenal ligament.


a
area of resection
b
c
ulcer craters
pylorus
d
e
f
g
h
i
j
k
l

Initially (1950), I had considered the problem from the standpoint of leaving the patient after segmental gastric resection with a proper balance between the (responsive) acid-secreting area of the fundus and the gastrin-containing (effectuator) area of the antrum. In a presentation of segmental gastric resection before the American Medical Association in June 1951, I drew a sharp distinction between *separation* of the antrum from a residual fundic pouch of the stomach and *retention* of the antrum. Increased experience, both clinical and experimental, has served to confirm and emphasize the importance of that difference.

The ulcer-provoking propensity of antral exclusion has been known for long years. Eiselsberg (1895), Finsterer (1918), Willmanns (1926), and Devine (1928) all successively proposed antral exclusion to circumvent the problem of dealing with a difficult supraduodenal ulcer crater in the conventional Billroth II type of gastric resection. Such a procedure, without excision of the mucosa in the isolated pyloroantral segment, was abandoned by all experienced gastric surgeons many years ago. Moreover, more than thirty years ago, Koennecke (*Arch. f. klin. Chir.* 120:537-550, 1922) showed that attachment of the isolated antrum to the ileum 30 cm. above the ileocecal valve invited stomal ulcer at the new gastric outlet after restoration of continuity by gastroduodenostomy.

It remained for Dr. Lester Dragstedt and his colleagues in 1950 to demonstrate that the manner in which attachment of the antrum to another segment of the alimentary tract invites ulcer recurrence is through the agency of hyperfunction of the antrum, when transplanted in such a manner. Dr. Dragstedt spoke rather disparagingly of segmental gastric resection in the somewhat heated discussion which took place at the Atlantic City meeting of the American Medical Association in June 1951. On that occasion, Dr. Dragstedt said, "I believe it [segmental resection] is unsound because it does not eliminate either the nervous or the gastric phases of secretion." Gathering experience, both clinical and experimental, is lending renewed emphasis to the importance of the distinction between antral *separation* and *retention*, which I drew then in offering segmental resection as an operation of real worth in overcoming the peptic ulcer diathesis by surgical means.

Segmental resection avoids the technical pitfalls of the Billroth II operation for a difficult duodenal ulcer. Segmental resection is applicable to all peptic ulcers, except the antral ulcer. A complemental Heineke-Mikulicz pyloroplasty, as remarked above, however, is always mandatory to avoid difficulties with gastric emptying.

As Dr. MacLean and his associates indicate in their recent report, segmental gastric resection does not free the patient from the symptoms of the dumping syndrome which so frequently accompany the Billroth I and II types of gastric resection.

The success of segmental gastric

resection in thwarting the ulcer diathesis persuaded me to extend the theoretic advantages of antral retention to tubular gastric resection with transverse gastroplasty (*Rev. Gastroenterol.* 19:525-549, 1952 and 20:611-626, 1953; *Minnesota Med.* 36:924-934, 1953). This operation has its primary indication in duodenal ulcer. A small gastric reservoir is reconstructed. The vagus nerves are preserved, and a pyloroplasty is necessary only in the presence of pyloric obstruction or when operation is undertaken during the occurrence of massive hemorrhage from a duodenal ulcer. In the latter circumstance, it is wise to ligate the gastroduodenal artery. In the event of a severe hemorrhage with a deep crater, in which the hemorrhage has been staunched with suture of the intraluminal bleeding arterial branch, it is probably wise also to divide both vagi nerves for immediate depression of acid secretion.

In any case, time, the final arbiter in all things, seems to have established the validity of the thesis that segmental gastric resection is a satisfactory operation with which to combat the peptic ulcer diathesis.

OWEN H. WANGENSTEEN, M.D.
Minneapolis

► TO THE EDITORS: I have used segmental gastric resection for duodenal ulcer in 23 patients; results were satisfactory in 20. In 1 patient, postoperative intermittent retention and vomiting subsided spontaneously over a period of three months; in 2 patients the dumping syndrome has been persistent and moderately severe.

From the technical point of view, the great advantage this procedure has over the Billroth II operation is that the problem of closure of the duodenal stump is obviated. It must be remembered that the residual pyloric portion of the stomach is vagotomized and a large Heineke-Mikulicz pyloroplasty must be done. In the patient with intermittent vomiting described above, pyloroplasty was not adequate.

It has been my impression that after segmental gastric resection patients are able to return to normal eating habits more quickly than after the Billroth II operation.

Stomal ulceration or reactivation of duodenal ulcer did not occur in this group, although the average follow-up period is too short to make this observation significant.

DAVID STATE, M.D.
Los Angeles

► TO THE EDITORS: Segmental gastric resection as described by Drs. MacLean, Hamilton, and Murphy would be fundamentally sound if we were sure that peptic ulcers are the result of an increased secretion of acid gastric juices.

It is an excellent procedure, for those familiar with it, to use when treating benign gastric ulcers located in the prepyloric region of the stomach which can be removed with the segment of stomach resected. Segmental gastric resection and pyloroplasty should be a good procedure for old inactive duodenal ulcers which have resulted in scar-

ring, thus causing obstruction of the pylorus.

Segmental gastric resection with or without pyloroplasty will have its followers just as other procedures have had in the past. I believe the surgeon should choose that operation with which he is most familiar and which can obtain the best results. Neither a segmental resection nor subdiaphragmatic vagotomy with combined gastroenterostomy removes the pylorus or ulcer-bearing portion of the duodenum.

I believe it is most important in the surgical treatment of duodenal ulcers to remove the lower two-thirds of the stomach, the pylorus, and the ulcer-bearing portion of the duodenum whenever possible. I have had my best results with this operation.

W. B. GNAGI, M.D.

Monroe, Wis.

► TO THE EDITORS: I have had only a limited experience with segmental gastric resection for duodenal ulcer.

It is my considered opinion that gastric ulcers should be operated on, because one cannot with assurance distinguish a gastric ulcer-cancer from a simple benign gastric ulcer. The duodenal ulcer is another matter and should be operated on only for the complication of the ulcer or for intractability.

I still believe that, in general, patients with duodenal ulcer are better off with a radical gastric resection including, in addition, the excision of that portion of the duodenum which contains the ulcer.

Whether restoration of gastrointestinal continuity should be done by the Billroth I or II procedure must be decided in the individual patient at the time of operation. I, myself, usually use the Hofmeister procedure and do anticolic anastomosis. Some of my associates usually do a retrocolic anastomosis. The mortality from this procedure is low and end results are good.

I believe that a few places should use segmental gastric resections for a sufficiently long period of time to bring forth evidence that this operation is superior to the more traditional radical gastric resection.

I. S. RAVDIN, M.D.

Philadelphia

► TO THE EDITORS: To the question of whether segmental gastric resection is a satisfactory operation for peptic ulcer, I would like to counter with another question: Are the good results in patients operated upon for peptic ulcer a result of physiologic operative procedures or should they be attributed to the removal of the pathologic process?

From our experience, all of the physiologic operative procedures, including gastroenterostomy, pyloroplasty, and vagotomy, unassociated with any other form of operative procedure have not proved satisfactory in observations of five years after vagotomy and longer for the other procedures.

Our satisfactory end results in operations for peptic ulcer have been in those patients in whom the pathologic process has been removed *in toto*.

It is well recognized that 75 to 85% of patients with peptic ulcer can be handled satisfactorily by nonoperative management. Patients needing operative intervention are the ones who have developed an associated pathologic process, the most common of which is chronic contact pancreatitis.

Therefore, we believe that in any operative procedure done on a patient with a chronic contact ulcer, the removal of the pathologic process is foremost, with less emphasis on the physiologic considerations.

We have had no experience with segmental gastric resections but would look upon the procedure with skepticism unless the ulcer is removed *in toto*.

J. WILLIAM HINTON, M.D.
New York City

ACTH and Cortisone for Malignant Exophthalmos*

QUESTION: Is adrenal steroid therapy proper or effective for exophthalmos?

Comment invited from

GLENN O. DAYTON, JR., M.D.
MELCHIOR V. OKIE, M.D.
WILLIAM H. BEIERWALTES, M.D.

► TO THE EDITORS: The article by Drs. Laurance W. Kinsell, John W. Partridge, and Nadine Foreman on the use of ACTH and cortisone for malignant exophthalmos is most interesting, since it runs counter to reported observations. When first available for clinical trial it was hoped that ACTH and cortisone would prove of value in these desperate cases of progressive exophthalmos. This is one of the first really encouraging reports.

I have used ACTH and cortisone in cases of rapidly advancing malignant exophthalmos and I do not feel that the hormones influence the course of the disease. I have in mind a particularly severe case of malignant exophthalmos in a 38-year-old woman who was treated with 80 mg. of ACTH a day for six days. During this period the exophthalmos continued to advance and both eyes developed corneal ulcers. Orbital decompression was resorted to without delay on the seventh day to preserve the globes.

Evaluation of therapy for malignant exophthalmos is most difficult since the clinical signs may abate at any stage for reasons unknown. It is only the rare but certainly important case which proceeds to perforating corneal ulcers and blindness. As yet, I believe there is no substitute treatment for surgical decompression of the orbits when faced with impending loss of either or both eyes.

Cortisone was recently reported to produce exophthalmos in the experimental animal. Dr. Kinsell and associates, however, advocate its therapeutic use in human beings. I have not found either ACTH or cortisone capable of influencing the course of exophthalmos in the experimental animal.

I believe that the whole question of malignant exophthalmos is still unsolved, both in human beings and in experimental animals.

GLENN O. DAYTON, JR., M.D.
Los Angeles

*MODERN MEDICINE, Dec. 15, 1953, p. 92.

► TO THE EDITORS: Adrenal steroid therapy is not only proper but very effective for exophthalmos. Such treatment is the direct means of suppressing hyperactivity of the hypothalamus and the anterior pituitary.

The thyroid gland has been considered for many years as the probable causative factor in inciting the exophthalmos. Actually the mechanism of exophthalmos is pituitary in origin. The thyroid as well as the other glands of internal secretion respond to the greater level of pituitary stimuli elaborated. The quantitative changes in endocrine balance, so produced, are reflected in the general systemic response. The clinical picture may be that of hyperthyroidism but confirmatory laboratory data are lacking.

The radical methods of treating the young individual afflicted with Graves's disease appear to be fraught with far more serious bad effects than similar treatment in the fully grown adult. Here steroid imbalance is of considerable significance.

The majority of the young adults are treated at least through the period of growth and development. Under this treatment a greater percentage of sustained remissions is obtained. Severe exophthalmos may develop spontaneously in a small number of cases. However, the majority of such cases develop after operation. The incipient exophthalmos may become progressive and malignant whenever thyroid function is suddenly diminished.

Surgery for exophthalmos or for suppression of thyroid activity in the incipient exophthalmos is not an answer. The real solution to the problem appears to depend upon selective suppression of the pituitary. This may be attained through adrenal and gonadal steroids. The thyroid, adrenals, and gonads are the target glands for the trigger pituitary gland. The substances elaborated, in turn, suppress pituitary gland activity. The clinical application of the known steroids is substitution therapy in an attempt to compensate steroid balance until the pituitary becomes adjusted to the diminished level of activity of the entire endocrine system.

Exophthalmos may respond to thyroid extract and sedatives; in these individuals the extract is employed to balance the thyrotropin-thyroxin axis. The endocrine imbalance is usually associated with a notably labile autonomic system as evidenced by extreme emotional instability. Sedation is desirable in such cases.

The use of adrenal steroids such as cortisone or ACTH when the adrenal gland is intact may modify the course of malignant exophthalmos. This is substitution therapy as well as pituitary suppression therapy. Complications to this type of therapy are at times undesirable and these side effects must be carefully considered.

Desoxycorticosterone treatment, although suppressive in some cases, is not clinically applicable because of its salt retention properties and the possibility of glomerulonephritis. The gonadal hormones, syn-

(Continued on page 134)

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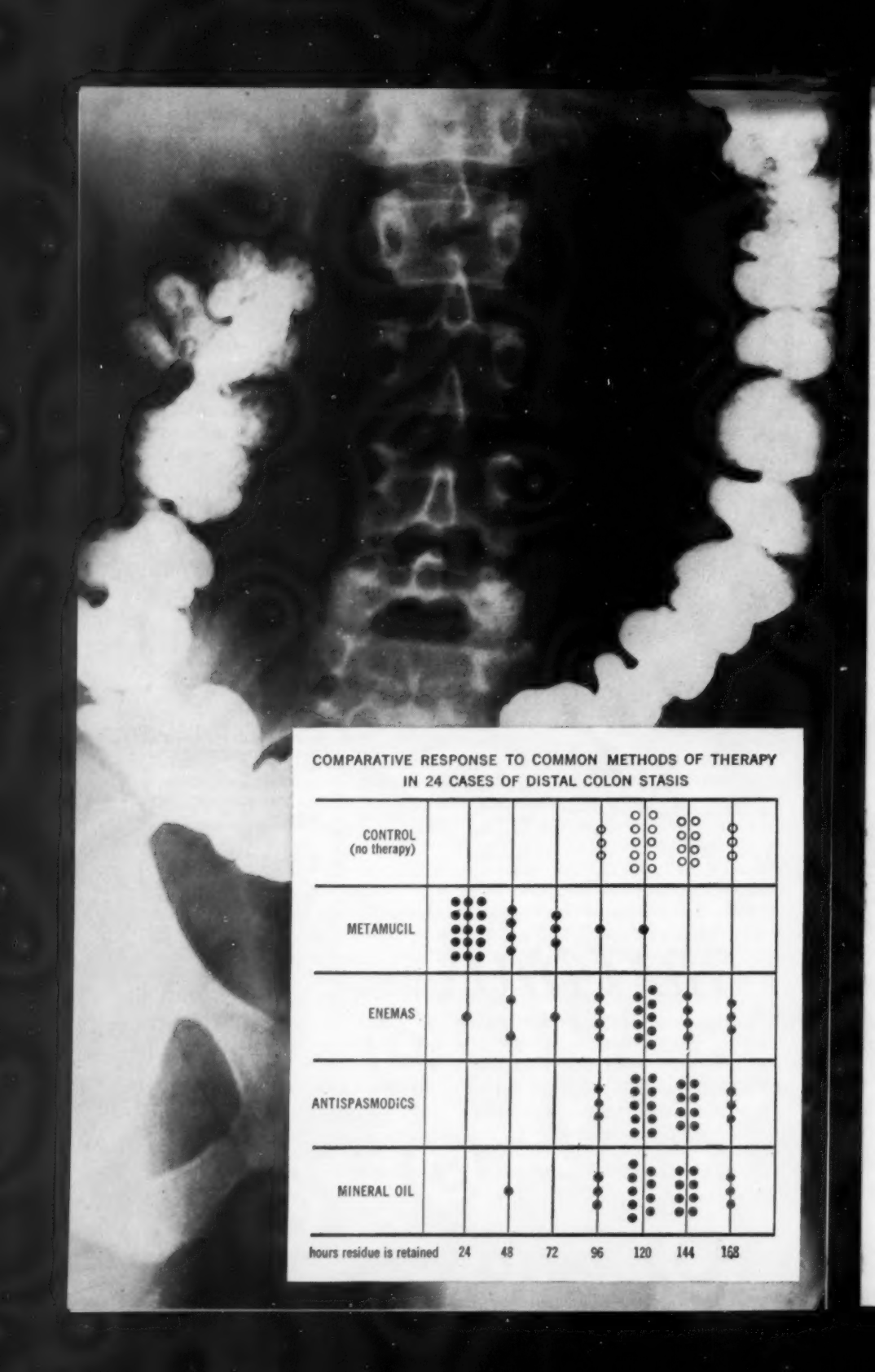
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*Barowsky, H.: A Roentgenographic Evaluation of the Common Measures Employed in the Treatment of Colonic Stasis, Rev. Gastroenterol. *19*:154 (Feb.) 1952.

thetic or natural, appear to be better tolerated by the patient. If given in sufficient dosage, recession of the exophthalmos may be accomplished.

Once steroid treatment has been instituted, it should be continued without interruption, diminishing or increasing the dosage in order to arrive at a maximum therapeutic maintenance level for the individual patient.

When one of the steroids is no longer effective, it is, at times, worth while to resort to another, or perhaps to a combination of steroids, as, for example, cortisone and testosterone, or cortisone and estradiol, or thyroid and estrogens, and so on.

MELCHIOR V. OKIE, M.D.
Buffalo, N.Y.

► TO THE EDITORS: We have used ACTH or cortisone in the treatment of only 4 patients with malignant exophthalmos. All patients were treated with a lower dosage than that recommended by Dr. Kinsell.

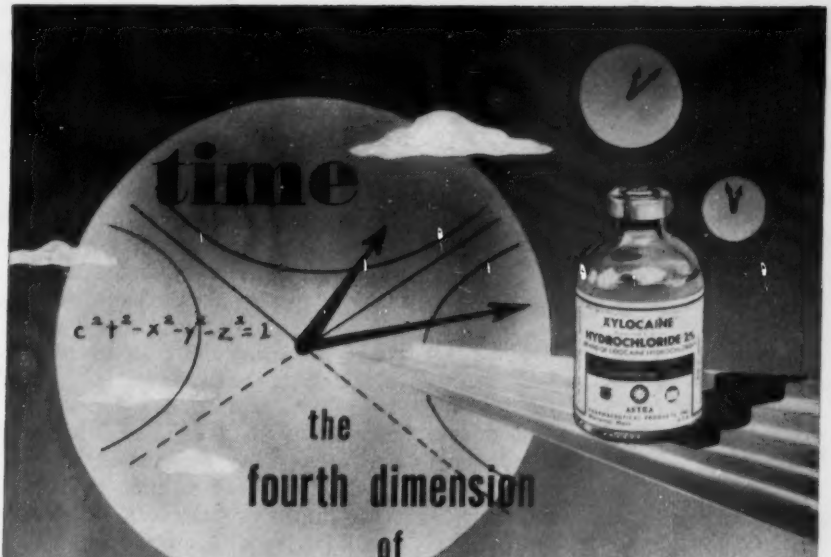
One patient receiving 300 mg. of ACTH per day intramuscularly showed no change in exophthalmometer measurements for nineteen days. Measurements were recorded at 2 mm. less on the twenty-third day of therapy, but were found above the pretreatment levels two months later. The other 3 patients showed increases in exophthalmometer measurements during five to fourteen days of therapy with dosages of ACTH up to 200 mg. per day intramuscularly.

This disheartening experience in no way proves that larger doses of cortisone and ACTH will not cause improvement in exophthalmos. My guess is that larger doses will work and that they do so directly by the mechanism of decreasing the inflammatory-like swelling found behind the eyeball in patients who have malignant exophthalmos. The prompt response observed by Dr. Kinsell is like that observed when steroid therapy decreases tumor and other signs of inflammation in thyroiditis.

Recent literature strongly indicates that adrenal steroids do not decrease thyroid-stimulating hormone (TSH) production by the pituitary. Therefore, it is unlikely that steroid therapy decreases exophthalmos by decreasing TSH stimulation of orbital tissues. If the action of steroids in the treatment of malignant exophthalmos is similar to their action in decreasing the swelling of the thyroid in thyroiditis, one would expect similarly that prompt cessation of steroid therapy would result in prompt recurrence of exophthalmos and that long-continued steroid treatment would suppress the serious manifestations of exophthalmos while the underlying disease continued to run its course.

Whether or not steroid therapy would be good for malignant exophthalmos, therefore, might depend upon the severity of reactions to adrenal steroids during the time necessary for the exophthalmos to run its acute course.

WILLIAM H. BEIERWALTES, M.D.
Ann Arbor, Mich.



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Obstetric Importance of Sacral Curves*

QUESTION: What is the importance of sacral curvature in obstetrics?

Comment invited from

PHINEAS BERNSTEIN, M.D.
RONALD P. NEILSON, M.D.
VERNE J. REYNOLDS, M.D.
GLENN W. BRYANT, M.D.

► TO THE EDITORS: The sacral curve is an important factor in roentgen and clinical analysis of the pelvis when the course and outcome of labor are in question. With an abnormal sacral contour, the element of dystocia is reduced if the pelvic diameters are large; but adequate or borderline pelves are misleading, and often progress is arrested in spite of normal measurements.

The types differentiated by Dr. Laurence G. Roth may generally be classified into two groups: [1] the exaggerated and [2] the diminished or absent sacral curve. Recognition of these structural entities may influence obstetric judgment.

In the exaggerated sickle-curve type, descent into the true pelvis may be prevented or delayed by the diminished A-P diameter, resulting from anterior displacement of the first and second sacral vertebrae. Here, also, the second sacral segment is often mistaken for the true promontory, which actually lies above it, in continuity with the iliopectineal ridge; often, this is the cause of an erroneous A-P conjugate measurement.

If the sickle sacrum is complicated by pronounced pelvic inclination, intractable vertex impingement on the symphysis, with resultant extension into brow or face presentation, may be an absolute indication for section. After traversing the inlet, however, the exaggerated sacral curve is actually conducive to rotation as well as descent. Inlet dystocia is, therefore, the chief problem in the sickle sacral curve.

The hockey-stick, straight, and J curves are definitive terms which differentiate the diminished sacral contour. In these, rotation and descent are the problems. In addition, the J curve, with advancement of the lower sacral segments, presents an added difficulty because of obstruction in the vaginal phase of delivery. The straight sacrum will displace the presenting part into the anterior pelvis, where the so-called anterior drive labor takes place, and in which structures involving the anterior vaginal wall may be damaged.

An ample forepelvis removes the possibility of dystocia and delivery is usually successful. If pelvic measurements are small or marginal, descent becomes impossible, dystocia may be absolute, and section must be considered. Furthermore, rotation difficulties caused by a flat sacrum produce arrests in transverse and occiput posterior positions. Compensatory diameters of wide and anthropoid pelves, however, may permit descent and delivery; if these diameters are small, section must be considered.

Forward advancement through the vaginal canal may be obstructed

*MODERN MEDICINE, Dec. 15, 1953, p. 108.

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when a J-curved flat sacrum is present. A narrow pubic arch angle supplementing this may actually obstruct delivery after the presenting part reaches the pelvic floor. Here the lower sacral segments, curved into the birth canal, obstruct the outward vaginal route. A wide pubic arch, bilateral episiotomies, Schuchardt's incision, and forceps may facilitate difficult delivery. The diminished sacral curve is commonly an important factor in rotation and descent mechanisms of labor.

The significant value of Dr. Roth's classification pertains to the assessment of the degree of dystocia present. This study assists in predetermining the outcome and progress of labor. His contribution is therefore valuable.

PHINEAS BERNSTEIN, M.D.
Colorado Springs, Colo.

► TO THE EDITORS: I feel that Dr. Roth's presentation of the classification of sacral curvature is indeed timely. His concepts of total evaluation of the pelvis in obstetrics seem very sound. His classification represents a new approach to an old problem.

The gradual evolution of refined and accurate technics of roentgen pelvimetry has placed due emphasis on the importance of pelvic capacity at various levels, but previous analyses have fallen somewhat short in categorizing the ordinary variations in sacral curvature.

Anything as revolutionary as Dr. Roth's approach to this very important factor is likely to be slow in gaining widespread acceptance, but I feel there is no question that the various forms of sacral curvature play such a profound role in influencing not only pelvic capacity, but the mechanism of labor as well, that obstetricians will ultimately find acceptance of Dr. Roth's careful studies expedient.

RONALD P. NEILSON, M.D.
Portland, Ore.

► TO THE EDITORS: Knowledge of the curvature of the sacrum alone has little obstetric value. That is, very few obstetricians would venture to prognosticate or advise delivery procedures if restricted to this information. Knowledge of the sacral curve by examination and roentgenograms of the curvature does develop considerable significance when its relationship to other parts of the maternal body is established.

Attempts have been made to classify these curvatures and attach prognostic values. The individual variations, especially as associated with other features of the pelvis, make such classifications of little purpose. Actually, the forward or backward rotation of the sacrum on its transverse axis and the presence of high or low assimilation of the sacrum is of greater importance than the curvature. For instance, a normal or even generous concave curve can be more than offset by a forward rotation of the upper sacrum.

One associated feature of the sacral portion of the pelvis that is not mentioned often but does play a real part is the soft tissue trough.

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1. Cass, L. J. and Frederik, W. S.: Malt Soup Extract as a Bowel Content Modifier in Geriatric Constipation. Journal-Lancet, 73:414 (Oct.) 1953.

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Is the variation in rotation and curvature caused by the soft supporting tissues? Or vice versa? Certainly the nulliparous patient with a forward rotation or decreased concavity also has a decreased capacity in her soft tissue trough. Many times when decreased sacral capacity or forward sacral rotation has been present, I have been impressed by finding on examination that the soft tissue support is the obstruction and not the sacrum.

There is no short cut. Evaluation of all bony and soft parts and their relationship by palpation, roentgenograms, and trial of labor for each individual patient will provide the best answer. Segregating, classifying, and finally assigning particular significance of one part of a pelvis can carry potential danger. It assumes the role similar to that of the white cell count as the diagnostic and prognostic feature of appendicitis.

VERNE J. REYNOLDS, M.D.
Boise

► TO THE EDITORS: The curvature of the sacrum is especially important in the midplane and at the outlet of the pelvis. Since most rotation takes place in midpelvis, decrease in the normal sacral concavity at this point will shorten the A-P diameter and lead to transverse arrest and persistent posterior positions.

If the curvature of the sacrum is greater than normal, as occasionally occurs in a rachitic pelvis, the sacrum may be described as cupped. The angulation in this instance is so acute that the space in the posterior half of the pelvis is not accessible to the head, and rotation again is prevented or delayed.

Forward angulation of the tip of the sacrum decreases the A-P diameter of the outlet and is especially important if the transverse diameter of the outlet is less than normal.

Thus a normal sacral curvature and a normal posterior sagittal diameter are very important and necessary in transverse contractions of the outlet, if dystocia at the outlet is to be avoided.

I agree with Dr. Roth that the most complete knowledge of the sacrum is obtained by lateral roentgenograms, although the mid and lower portions can usually be felt well on rectal examination and their curvature ascertained.

GLENN W. BRYANT, M.D.
Louisville

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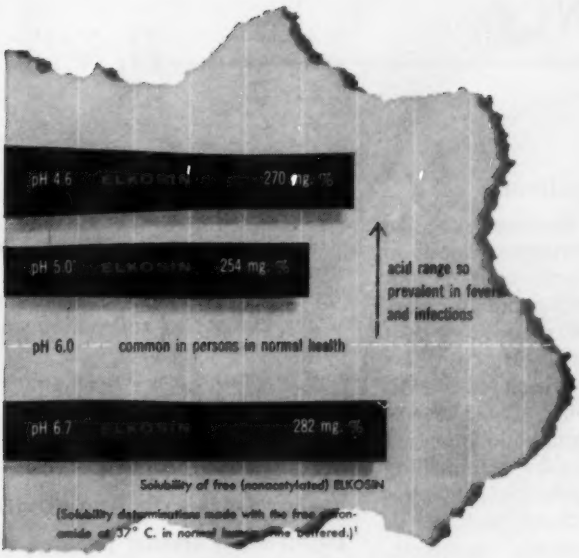

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I. Ziegler, J. B.; Bagdon, R. E., and Shabica, A. C.: To be published.

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BASIC SCIENCE *Briefs*

Pharmacology

Granulation Inhibitors

Dibenamine and Banthine act like cortisone and hydrocortisone in suppressing development of granulation tissue of turpentine abscesses in rats. Effect on neurohumors is responsible, believe Dr. Matthew Taubenhaus and associates of Michael Reese Hospital, Chicago. Apparently, the sympathetic blocking agents do not act by diminishing food intake, stimulating the adrenal cortex, or blocking discharge of pituitary somatotropic hormone. Normal granulation in turpentine abscess of rats seems to require both hormonal and neurohumoral regulation.

Proc. Soc. Exper. Biol. & Med. 84:646-651, 1953.

Bacteriology

Adenoid Infection

An unidentified pathogenic agent not visible in stained specimens has been isolated from human adenoid tissue. Apparently a virus or rickettsia, the organism may be related to upper respiratory infections, conclude Dr. Wallace P. Rowe and associates of National Institutes of Health, Bethesda, Md., and Johns Hopkins University, Baltimore. During the growth of children's adenoid tissue in roller tube culture, many samples showed typical epithelial degeneration progressing to complete destruction of cells in seven to ten days. The adenoid degeneration agent was filtrable and serially transmissible. Effects on some tissue cultures resembled those of herpes simplex and poliomyelitis viruses.

Proc. Soc. Exper. Biol. & Med. 84:570-573, 1953.

Cardiology

Vasopressors with Anesthetics

To maintain arterial pressure during anesthesia and operation, sympathomimetic amines are sometimes given by continuous intravenous infusion. In view of untoward cardiac reactions occasionally reported, Dr. Ralph A. Deterling, Jr., and associates of Columbia University, New York City, used several types and combinations of vasopressors on anesthetized dogs. Simultaneous administration of cyclopropane and norepinephrine or epinephrine frequently produced serious ventricular arrhythmias. However, sinus rhythm was maintained when ether was combined with the same drugs. Neosynephrine infusion caused no ventricular irregularity during cyclopropane anesthesia. Dosage of Neosynephrine was generally 3 to 6 μg. per kilogram per minute and of other pressors 0.3 to 0.9 μg.

Anesthesiology 15:11-18, 1954.

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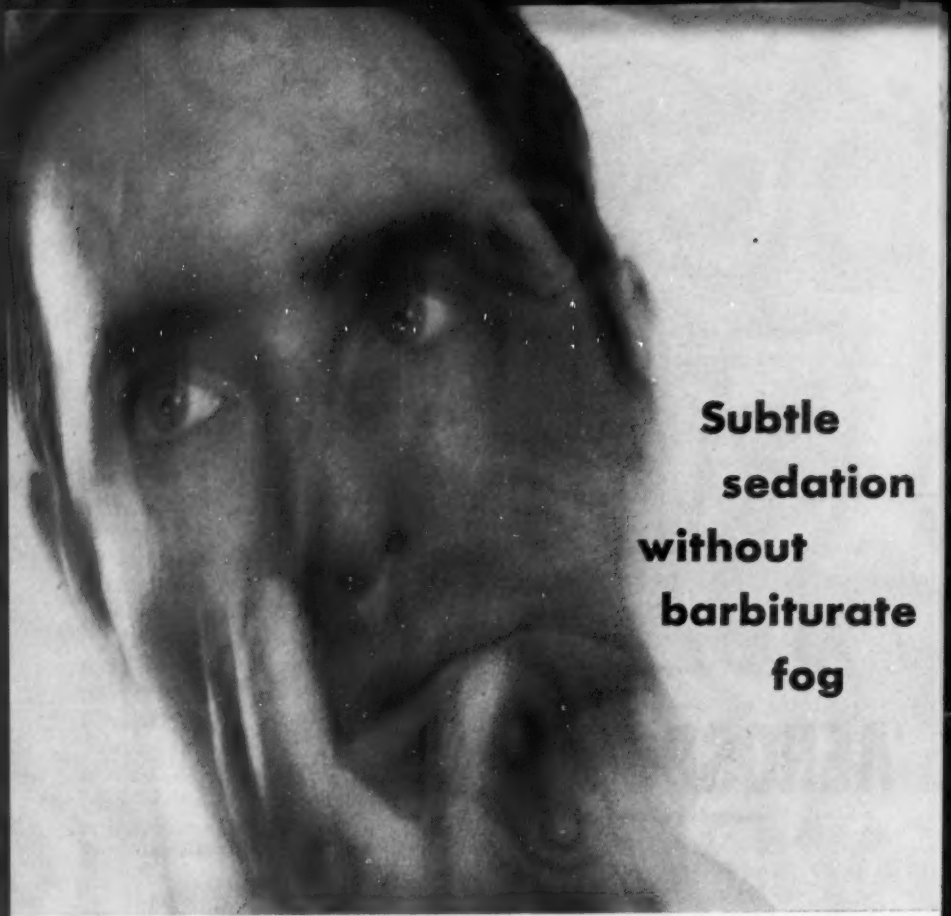

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1. Tebrock, H. E.: M. Times 79:760, 1951.

Schenley Laboratories, Inc., *New York 1, New York*

Circulation

Alloxan and Atheroma

Atherosclerosis is less severe in cholesterol-fed rabbits made diabetic by alloxan than in healthy animals fed the same diet. Protection is probably due to action of the drug on the pancreas, conclude Dr. D. L. Cook and associates of Chicago. Cholesterol was given to normal rabbits, to a group receiving alloxan while the pancreatic circulation was temporarily occluded, and to alloxan-diabetic animals. The alloxan-diabetic rabbits ate more, and serum cholesterol and lipoprotein levels of classes S_f 5 to 9 and 16 to 30 were extremely high, but atheroma was relatively scanty. Atherosclerosis was more severe in animals without alloxan and those with pancreatic blood flow occluded during therapy.

J. Exper. Med. 99:119-124, 1954.

Pathology

Transverse Bone Lines

Arrested or decreased cartilaginous proliferation causes formation of transverse cancellous strata in growing bones of rats. When fed to young rats, selective diets of dextrose and thiamin chloride solution inhibit bone growth and produce osseous deposits in an abnormal horizontal direction, report Drs. Edwards A. Park and Curt P. Richter of Johns Hopkins University, Baltimore. After fifty-eight days of the restrictive regimen, the long bones show resorption of trabeculae and cessation of growth and decrease in the size of the proliferative cartilage. Osteogenesis proceeds and a thin layer of bone forms around the narrowed cartilaginous plate. Reinstitution of normal diets promotes rapid osteoblast activity along the bony encasement while the cartilage cells are reestablishing the cycle of division and senescence. The thickening of the transverse line continues until the osteoblasts and capillaries penetrate the cartilage to form normal bone on the matrix frame. Abnormal strata are resorbed after normal growth is begun.

Bull. Johns Hopkins Hosp. 93:234-248, 1953.

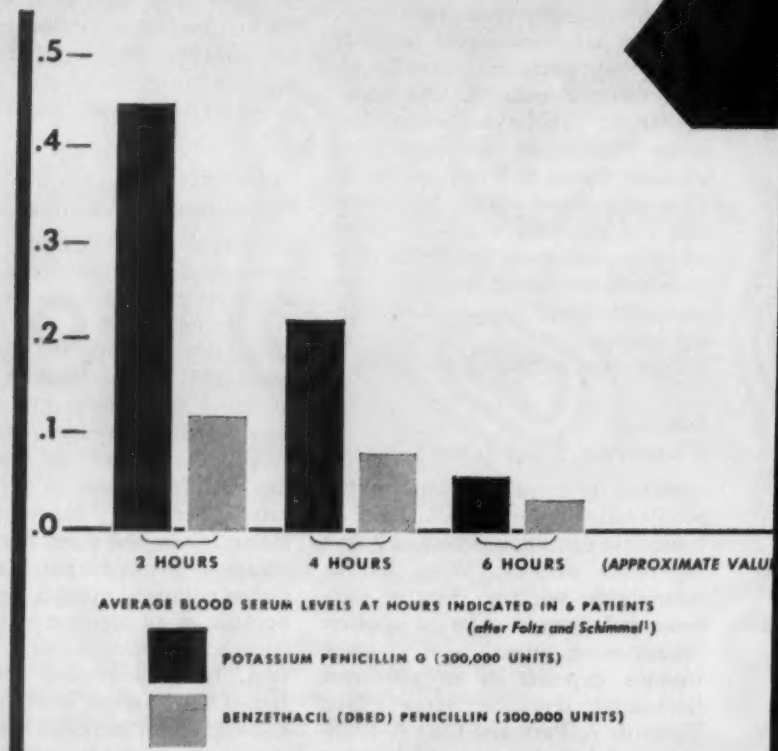
Hematology

Prevention of Anemia

Thyroxine and cortisone therapy will inhibit the microcytic anemia which occurs after hypophysectomy in rats. Dr. Roger C. Crafts of the University of Cincinnati hypophysectomized 18 rats and injected 9 of these with daily subcutaneous doses of the hormones. Microcytic anemia developed in nontreated rats, with decreases in erythrocyte counts, hematocrit readings, hemoglobin levels, and mean corpuscular volumes. Mean corpuscular hemoglobin remained normal, apparently because of an increase in the mean corpuscular hemoglobin concentration. Hormone-treated rats maintained hematologic levels and even had significant increases in the erythrocyte hemoglobin concentration. Bone marrow examination of treated animals revealed active erythropoiesis in spite of excessive fat deposition and decrease in total cellularity.

Endocrinology 54:84-92, 1954.

Higher Continuous Levels with Potassium Penicillin G—the Ideal Oral Penicillin Salt



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1. Foltz, E.L., and Schimmel, N.H.: Comparison of Orally Administered Penicillins, Antibiotics & Chemotherapy 3:593 (June) 1953.

2. Boger, W.P., Bayne, G.M., Carfagno, S.C., and Gylfe, J.: Oral Penicillin: Evaluation of Available Dosage Forms, Scientific Exhibit, A.M.A. Convention, New York (June) 1953.

*Buffered crystalline potassium penicillin G

Surgery

Peptic Ulcer Repair

Healing of gastric ulcers in animals depends more upon the site of injury than upon the size or number of lesions. A heated stainless steel cylinder was used to induce ulcers in the stomachs of guinea pigs at the esophagogastric or gastroduodenal junction or on the middle of the lesser curvature, reports Dr. A. Wynn Williams of the University of Aberdeen, England. At postmortem examination on the seventeenth day after induction of ulcers, all of the lesions at the esophagogastric junction and on the lesser curvature were completely healed. However, only two-thirds of lesions at the gastroduodenal junction had healed.

Brit. J. Surg. 41:319-326, 1953.

Bacteriology

Antimycobacterial Agent

Fractions of calf thymus, probably of a peptide nature, actively inhibit growth of acid-fast bacteria. Drs. René J. Dubos and James G. Hirsch of the Rockefeller Institute for Medical Research, New York City, extracted thymic tissue with aqueous ethanol and produced a stable, water-soluble substance, tentatively designated thymus peptide. In concentrations of 1 to 10 μg. per cubic centimeter of an albumin medium, the agent is active in vitro against various strains of mammalian mycobacteria, especially against the attenuated strain of bovine tubercle bacillus, BCG-Phipps. Thymus peptide has little inhibitory action against microbials that are not acid fast. The mycobacteriostatic activity of the substance is decreased by a large inoculum of microorganisms, acidified medium, or the addition of some enzymatic hydrolysates. A similar agent also can be extracted from calf spleen or pancreas, sheep thymus, and beef lymph nodes, but not from calf lung or liver.

J. Exper. Med. 99:55-63, 1954.

Nutrition

Dietary Value of Alcohol

Forced ingestion of alcohol, wine, or beer by rats results in a selective decrease in food intake proportional to the amount of calories consumed in the liquids. Dr. Curt P. Richter of Johns Hopkins University, Baltimore, gave 8, 16, or 24% solutions of alcohol in place of drinking water to the animals for two hundred and sixty-five days. Some animals died after exposure to the 24% solution, and larger quantities were refused. Surviving animals were healthy, gained weight normally, and maintained constant caloric intake. When fluid consumption was restricted to wine containing 12.5% alcohol, the animals also showed no harmful effects and ate proportionately less food to maintain a caloric intake equal to control rats. Animals consuming beer drank 2½ to 3 times as much as those ingesting alcohol, wine, or water, but the food intake was also reduced in direct proportion to the caloric value of the beer.

Quart. J. Stud. Alcohol 14:525-539, 1953.

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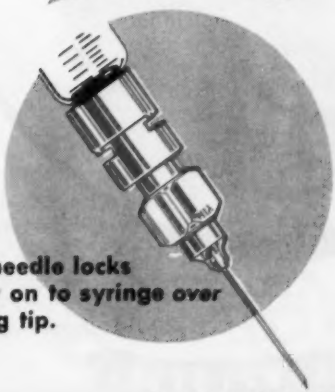

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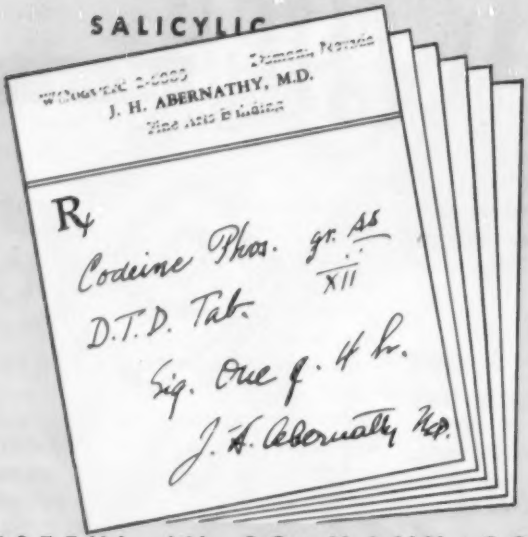

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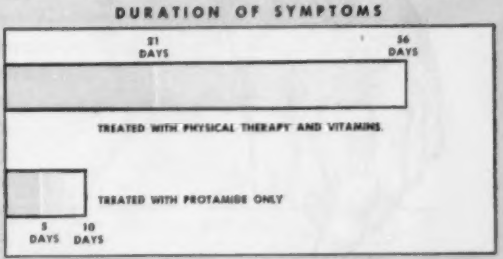

*"TREATMENT OF NEURITIS WITH PROTAMIDE"

Richard T. Smith, M.D.
Associate in Medicine and Chief of Arthritis at Jefferson Medical College and Hospital; Associate Physician and Chief of Arthritis, Pennsylvania Hospital; Director of Department of Rheumatology, Benjamin Franklin Clinic.

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Case MM-260

THE CLUE

ATTENDING M.D: I would like you to see a 37-year-old man in the outpatient venereal disease clinic. He has a discrete nodular eruption on the back of the hands, extensor surfaces of the forearms, and dorsal aspects of the feet, and also a squamous erythematous rash over the shins, which has been unchanged for twelve months; no itching. The blood serum has a positive Wassermann reaction; penicillin has not affected the condition.

VISITING M.D: What is the past history of this illness?

ATTENDING M.D: One year ago, after the man returned from a prolonged stay abroad working for an oil company, swelling of the ankles, arms, and hands developed, accompanied by the nodular rash.

VISITING M.D: Any subjective symptoms?

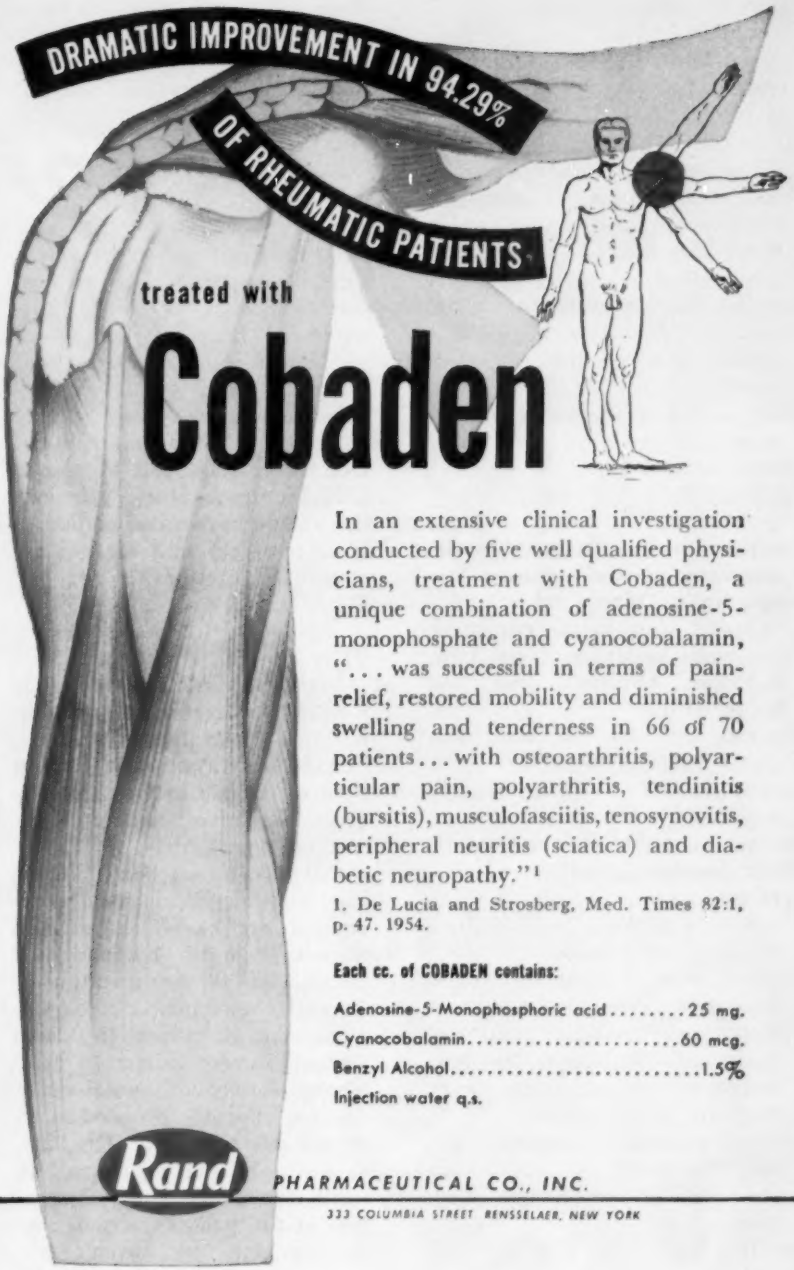
ATTENDING M.D: He was feeling perfectly well. The diagnosis of sarcoidosis was made at the time on the basis of the clinical picture and a biopsy of a nodule of the forehead.

VISITING M.D: What do roentgenograms of the chest and finger joints show?

ATTENDING M.D: Nothing appeared to be abnormal.

VISITING M.D: Oh? I'd say that was an interesting fact. Then what happened?

ATTENDING M.D: Four months after the onset, a profuse nasal discharge started, occasionally blood-stained. Seven months later the positive Wassermann was discovered and the diagnosis was changed from sarcoidosis to syphilis by his private physician.



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1. De Lucia and Strosberg, Med. Times 82:1, p. 47. 1954.

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333 COLUMBIA STREET RENSSELAER, NEW YORK

VISITING M.D: Just precisely what were the serologic tests for syphilis?

ATTENDING M.D: Routine Wassermann positive, serum diluted 1 in 128. Cardiolipin Wassermann reaction was positive, the routine Kahn test positive, and Price's precipitation reaction negative.

VISITING M.D: Is there any information of contact with or symptoms of venereal disease?

ATTENDING M.D: No, unless you consider the present symptom such.

VISITING M.D: I don't.

PART II

VISITING M.D: I'm intrigued by your comment on the patient's foreign travel. Where did he go?

ATTENDING M.D: In the course of two years he was in India, Iraq, Palestine, Abyssinia, Iran, and South Africa.

VISITING M.D: By the way, was spinal fluid examined?

ATTENDING M.D: Yes; completely negative.

VISITING M.D: Why do you think he has venereal disease?

ATTENDING M.D: I don't. I think this is a biologic false positive Wassermann reaction.

VISITING M.D: I think two clues have not been adequately explored: the profuse nasal discharge and the biopsy. Just how certain was the pathologist of the diagnosis of sarcoidosis?

ATTENDING M.D: His opinion was that the histologic appearance was consistent with that diagnosis.

VISITING M.D: I'm no pathologist, but I would like to see the slides—and, by the way, is there still nasal discharge?

ATTENDING M.D: Yes.

PART III

VISITING M.D: Assuming this is a biologic false positive, I suppose the most common conditions causing such a reaction are disseminated lupus erythematosus, periarteritis nodosa, rheumatoid arthritis, rheumatic fever, sarcoidosis, and . . .

ATTENDING M.D: *(Interrupting)* Don't you think that in such a situation the serologic examination should be repeated at monthly intervals to find the general pattern of reactions?

VISITING M.D: I do.

PART IV

ATTENDING M.D: *(One month later)* Routine Wassermann reaction positive, serum diluted 1 in 64. Cardiolipin Wassermann reaction positive; Price's precipitation reaction negative; routine Kahn reaction negative.

VISITING M.D: I think this is a tropical, nonvenereal disease. I examined the earlier slides and showed them to Dr. Jones, the pathologist at the Institute of Tropical Medicine. He suggested leprosy. Ziehl-Neelsen stained sections showed numerous acid-alcohol–fast bacilli. Nasal swabs and ear clippings revealed many *Mycobacterium leprae*. Dr. Jones says that in such instances Nelson's treponemal immobilization test of the patient's serum is of interest, but we haven't per-

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formed this. A biologic false Wassermann is found in about 70% of leprosy cases.

ATTENDING M.D: As far as I can remember we've had only one other case of leprosy in the entire history of the outpatient clinic.

VISITING M.D: You're younger than I. There have been at least 4 that I know of, though the disease is rare. An important point to remember is the prolonged foreign travel, though I must confess that a careful interrogation failed to disclose any intimate known contact with leprosy. Also, when a patient has a positive Wassermann reaction and no contact with venereal disease and no convincing clinical evidence of such, blood specimens should be studied monthly and the causes of biologic false positive reactions must be pursued. I understand that isoniazid is now being used for leprosy. We shall send the patient to Carville in Louisiana. If we were in New York, it might be possible to treat him there.

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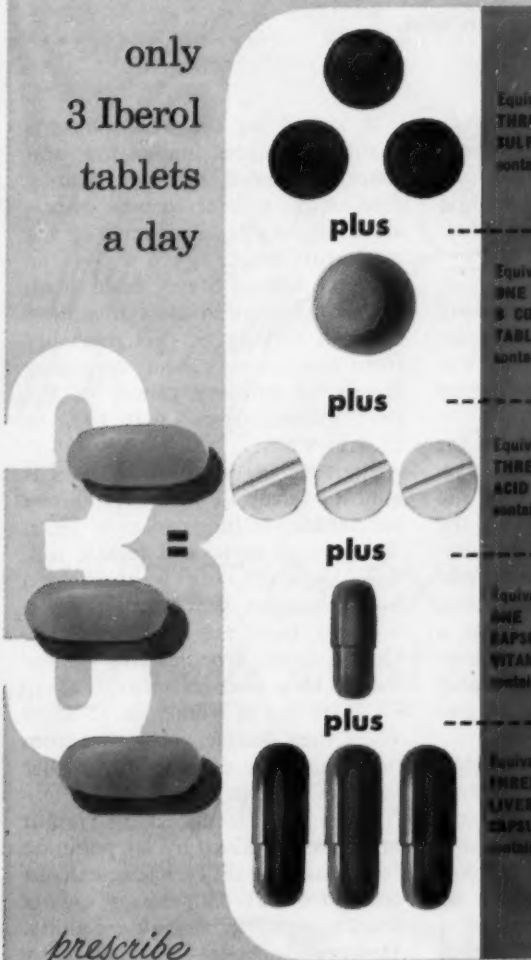

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Smoking and Cancer of the Lung

E. CUYLER HAMMOND, SC.D.
New York City

*A large-scale epidemiologic study is being made by volunteers of the possible effects of tobacco on lung cancer and seems a feasible method for such research.**

EVILS have been laid to smoking ever since Sir Walter Raleigh, introducing the habit in England, was drenched with water by a solicitous friend.

Tobacco is now often blamed for cancer in various body regions, particularly for primary tumor of the lung. However, the validity of the investigations showing a relationship between lung cancer and smoking is not completely convincing. Critical analysis of data from a study involving thousands of subjects from 9 states will probably start within a year and should give reliable figures.

Tobacco smoke contains at least 4 substances that are toxic in large amounts—carbon monoxide, nicotine, arsenic, and tar. Whether minute doses of such materials taken for long periods may produce serious disorders is not determined.

Is the toxic influence cumulative, or does the body become immune after lengthy exposure? Perhaps the harmful agents are deactivated by the carbon particles of which smoke is chiefly composed.

A survey by the Massachusetts health department implies that oral cancer is more common among pipe smokers; later records associate tobacco and carcinoma of the respiratory tract.

In the United States, male death rates for cancer in most sites have changed very little. Yet mortality from respiratory cancer, consisting largely of primary cancer of the lung, jumped from 4.6 in 1933 to 17.8 in 1948.

Increase in twenty-four years is almost twelvefold, with 17,400 men succumbing to lung cancer in 1952. The annual male and female toll, now about 21,000, is augmented by 1,000 every year.

Other facts are of significance. Deaths from bronchogenic cancer mount to a peak in men at 65 to 69 years and in women at 75 to 79 years, then decline. Mortality from lung cancer is considerably higher in cities than in rural areas.

The growing threat of tumor might be explained by air pollution from coal and oil furnaces, exhaust fumes from automobiles, or cigaret smoking, and perhaps all are guilty. However, cigarets are apparently implicated by 3 factors: a time trend, effects of smoke on laboratory animals, and human statistics.

1] Since World War I, the acceleration of cigaret sales in the Unit-

*Smoking in relation to lung cancer. Connecticut M. J. 18:3-9, 1954.

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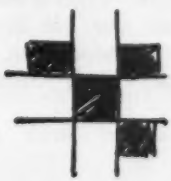

ed States and much of Europe has corresponded with soaring cancer mortality, allowing a lag of ten to twenty years between exposure and malignant growth.

2] If tar distilled from cigaret smoke is applied to the skin of mice, cancer occasionally develops within a year, and in two years 44% of animals are affected.

3] As stated by 4 studies published in 1950, people with lung cancer more frequently admit heavy smoking than do noncancerous persons, although proportions vary considerably in different reports.

No type of evidence is positive proof, but all 3 together build a strong case against tobacco. The crucial facts concern human beings, and investigation may follow either the forward or backward technic.

The historic, or *backward*, method questions individuals with a specific disease about former actions or events, using as controls comparable subjects without the illness. The method is rapid and inexpensive but does not meet the best statistical criteria.

Some experts believe that conclusions are more often wrong than right, for the following reasons: [1] The subject may be biased by his own experience, the interviewer's attitude, or the way queries are phrased. [2] Truly similar experimental and control groups are not easy to find. [3] Even when 2 conditions under study are not associated in the general population, a relationship is very likely among hospital subjects.

Previously described work on smoking in relation to human lung cancer is based on the backward method.

A current project based on the *forward* or follow-up method deals with white men aged 50 to 69 years. Volunteer workers of the American Cancer Society present a 4-page questionnaire proved reliable in field trials. Results practically equal those of skilled personal interviews. The first page explains objectives and screens out the class using little or no tobacco; questions on other pages concern use of cigarets, cigars, and pipes.

Each worker has charge of 10 subjects, preferably relations or friends. Once a year all changes of address are reported, also deaths with date and place. Information is supplied by death certificates and, in case of cancer or respiratory disease, by the appropriate physician or hospital.

Between January and June 1952, replies were sent by 204,000 men in New Jersey, New York, Pennsylvania, Michigan, Illinois, Wisconsin, Minnesota, Iowa, and California. Data were coded and punched on IBM cards and will be collated with final records.

Results will show whether smokers have a high over-all death rate or increased mortality from pulmonary cancer, as well as the relative influence of type, duration, and amount of smoking.

Thus far, the only fact proved is that a large-scale epidemiologic survey can be entrusted to volunteers. This plan may be adapted to further studies, otherwise out of the question because of expense.

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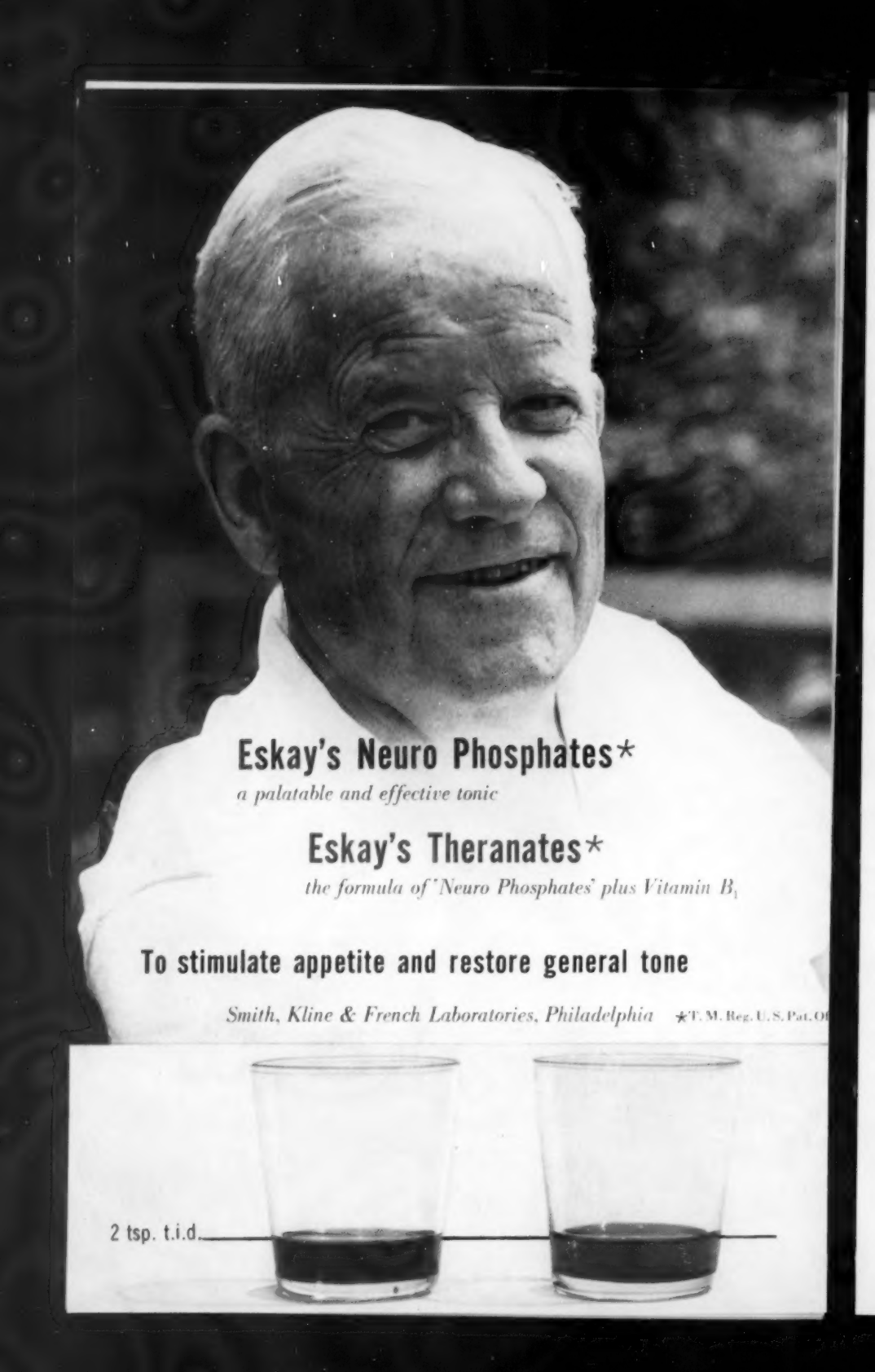
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short REPORTS

Neurology

Electroshock for Dementia Paralytica

Emotional disturbances in syphilitic patients with dementia paralytica are often decreased after electroshock treatment. Dr. Magnus C. Petersen of the Rochester State Hospital, Rochester, Minn., reports that of 70 patients so treated since 1943, the majority were satisfactorily benefited. A regimen of 1 to 3 treatments per subject resulted in great improvement in 42 patients and moderate improvement in 21; 7 patients did not improve. The therapy, given in conjunction with adequate curarization, is also safely administered to patients with cardiac complications and may be lifesaving. Electroshock treatment can then be followed by fever or chemical therapy or both to treat the basic disease.

J. Nerv. & Ment. Dis. 118:162-167, 1953.

Therapy

Chronic Bronchial Asthma

An intramuscular preparation of khellin may afford relief for patients with chronic bronchial asthma without causing local injection pain or gastrointestinal upset. When previously used as an oral medicament or administered in various solvents, the drug produced severe side reactions in many patients. Dr. Harold S. Tuft of the Hahnemann Medical College, Philadelphia, gave pure crystalline khellin in sterile isotonic saline to 37 patients with chronic asthma. Doses of 50 to 100 mg. were given once or twice weekly. Absorption of the material was slow and consequently bronchodilation was lengthened. Appreciable improvement of wheezing and distress was noted in 28 cases, and only 1 patient had a gastrointestinal upset. Slight local pain was felt at the site of injection by 7 patients.

Ann. Allergy 2:740-743, 1953.

Hormones

Therapy for Acute Leukemia

Because either cortisone or A-methopterin will sometimes cause temporary remissions in children with acute leukemia, the 2 agents are often used in combination or alternately. However, cortisone significantly reduces the antileukemic activity of A-methopterin when the 2 agents are given simultaneously for mouse leukemia L1210 or L4946, report Dr. Howard E. Skipper and associates of Birmingham. That a steroid hormone can inhibit a factor able to impede nucleic acid synthesis is of interest, because much evidence indicates that nucleotide and steroid metabolism are sites of biochemical malfunction in neoplasia.

Cancer Res. 14:86-87, 1954.

Dermatology

Detergent and Soap Reactions

Cutaneous irritation of hands exposed to fine-fabric soaps is less than damage caused by an all-purpose detergent. Popular brands of soaps and detergents were used for a period of two weeks under the natural circumstances of housework. The hands were then examined grossly and with a wide-angle binocular microscope by Dr. Sture A. M. Johnson and associates of Madison, Wis., and Cincinnati. The dermatologic examination of more than 5,000 women's hands after trial of various products was in general agreement with the housewives' appraisal of the commodity. Although the difference between products was slight, the fine-fabric soaps were associated with the best skin condition, an all-purpose synthetic detergent and one all-purpose soap were somewhat more irritating, and one all-purpose soap appeared most damaging. Dermatitis appeared in about 1 of 1,000 test participants.

Arch. Dermat. & Syph. 68:643-650, 1953.

Surgery

Pericardial Prosthesis

The synthetic fiber, Vinyon H H Staple, appears to be a practical pericardial substitute in dogs. Vinyon cloth, a copolymer of vinyl chloride and vinyl acetate, was used by Dr. Jaime Costas-Durieux and associates of Hahnemann Medical College, Philadelphia, to replace sections of canine pericardium. Microscopic and gross examination of the synthetic implants indicated that vinyon was well tolerated by the tissues and the induced reactions were benign. The early fibrinopurulent exudate becomes organized to form abundant granulation tissue. Atelectasis of the adjacent lung tissue and adhesions to the epicardium may appear. In six months the inflammatory process is replaced by mature fibrous tissue with hyalinization, foreign body giant cells, and occasional sterile abscesses.

J. Internat. Coll. Surgeons 20:682-686, 1953.

Oncology

Recurrent Breast Cancer

Carcinoma of the breast may return five to ten or more years after surgery, the interval depending mainly on stage of disease at the initial operation. Survival time then varies according to type of recurrence, whether local or metastatic with osseous or generalized spread. Dr. M. B. Shimkin and associates of the University of California, San Francisco, analyzed 261 cases initially seen in relapse during 1918-47. Of the group, 34% lived at least five years after operation and 7% survived ten years or more. Radical reoperation was done for 28 patients; 10 of these were apparently well five to twenty-four years later. In addition, review included 372 cases with fatal recurrence after radical mastectomy. About 36% of those first operated on in Stage I lived five years, 20% with surgery in Stage II, and 9% in Stage III.

Cancer 7:29-46, 1954.

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Proc. Soc. Exper. Biol. & Med. 84:628-631, 1953.

Hematology

Familial Anemia

Hemoglobin C disease occurs in individuals homozygous for the gene for hemoglobin C and can be diagnosed by electrophoretic identification of the abnormal compound. The anemia is apparently limited to Negroes, and family studies indicate that the C hemoglobin state is determined by a gene transmitted as a simple mendelian dominant. Dr. Helen M. Ranney and associates of Columbia University and the Presbyterian Hospital, New York City, describe the symptoms associated with homozygous hemoglobin C to be transient arthritis, splenomegaly, slight reticulocytosis, nearly normal hemoglobin level, and large numbers of target cells. Patients with electrophoretic patterns of both normal and C hemoglobin appear to be symptom free, although slight hypochromia and small numbers of target cells may be identified. However, patients with sickle and C hemoglobin combinations present variable syndromes, sometimes indistinguishable from the classical sickle-cell anemia. Symptoms may also be the same as in hemoglobin C disease with the addition of bone alterations and anemic crises.

J. Clin. Investigation 32:1277-1284, 1953.

Hypertension

Sympathetic Blocking Agent

High blood pressure may be reduced by Dibozane, a synthetic compound related to piperoxan. Intravenous doses of 23 to 94 mg., given fourteen times to 6 patients, reduced systolic levels at least 30 mm. of mercury and diastolic 20 mm. on 6 occasions. Effects persisted thirty to sixty minutes. Divided oral doses of 0.75 to 1.05 gm. caused slight to profound reduction lasting one to five hours or more in 5 of 6 trials. Dr. William H. Rosenblatt and associates of Philadelphia General Hospital and the University of Pennsylvania, Philadelphia, observed little toxicity, although some drowsiness, palpitation, and dizziness resulted. In a man with renal involvement, however, hypertension was augmented by therapy.

Am. J. M. Sc. 227:179-185, 1954.

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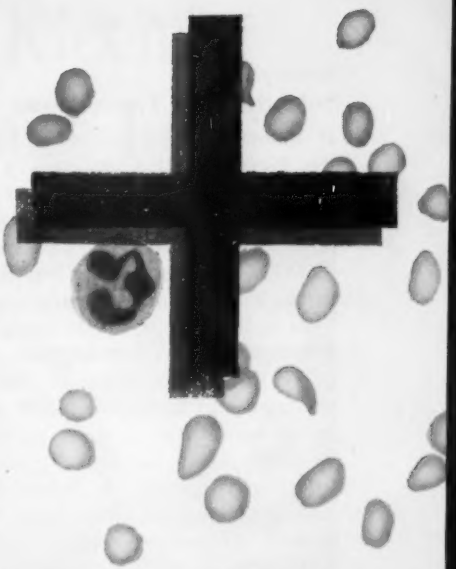

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If the airway is obstructed above the larynx, within seconds a tapered cannula may be inserted into the trachea for artificial respiration with compressed air. Lacking a cannula, oxygen may be insufflated through a 13-gauge needle for at least half an hour, while other aid is prepared. Neither method seriously injures the neck or trachea of dogs, and lungs examined after treatment of apnea show no trace of emphysema, atelectasis, edema, or hemorrhage. Dr. J. Porter Reed and associates of Ohio State University, Columbus, employ a stainless steel cannula 5⅞ in. long, with an outside diameter sloped from 0.37 to 0.16 in. Just proximal to the sharpened point are 7 holes, size No. 60. About two-thirds of the device is inserted through skin and soft tissues, so that the orifice is 8 cm. caudal to the larynx. Air is administered twelve to twenty times per minute by occluding a Y tube between the cannula and air supply. Approximately 10 liters a minute is delivered to the subject, with the surplus escaping through the mouth, nose, and at the open end of the Y tube. The 13-gauge needle is inserted just below the thyroid cartilage, and oxygen flows at the rate of 15 liters per minute. Needle therapy does not move the chest, however. Although blood is well oxygenated, arterial carbon dioxide accumulates and venous pressure rises, while blood pressure and heart rate decline and *p*H falls to dangerous levels. However, most changes are quickly eliminated by cannula technic. Even unskilled personnel might carry out mass artificial respiration with compressed air. After war gas attacks, for example, bicycle pumps, reversed water venturitubes, and other sources could be used.

Anesthesiology 15:28-41, 1954.

Drugs

Intrathecal Injection of Vasoconstrictors

Various agents employed to prolong spinal anesthesia are probably safe as now used, but toxic levels have not previously been defined. Dr. Jone J. Wu and associates of the University of Utah, Salt Lake City, therefore gave 10 to several hundred times the clinical dose to rhesus monkeys. Epinephrine in amounts of less than 0.3 mg. per kilogram caused excitation, with hyperextension, rigidity, and hyperreactive tendon reflexes. Doses of 0.6 to 1 mg. per kilogram were first stimulating, then depressing, as if producing acute anoxia or hypoxia of the spinal cord. Ephedrine induced ordinary spinal anesthesia at 15 mg. per kilogram in 2.5% solution, analgesia without motor disturbance at 6 or 8 mg. in 1% apparently by some factor other than vasoconstriction. Neosynephrine in doses of 6 to 9 mg. per kilogram induced tremors, hyperreactive knee jerks, and general depression. Spinal anesthesia without complete motor paralysis was effected by 15 mg. per kilogram in 2.5% dilution.

Anesthesiology 15:71-88, 1954.

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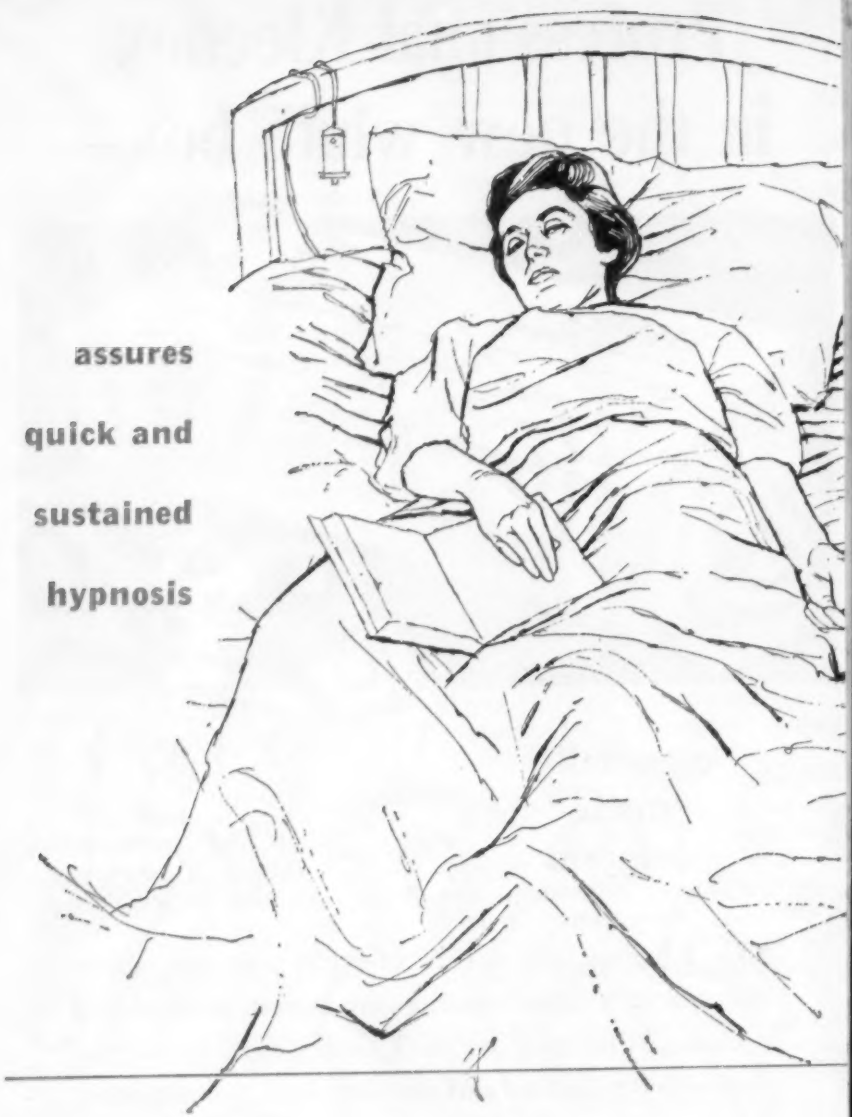

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Pharmacology

Antileukemic Therapy

Toxic effects of Aminopterin are reduced without affecting potency when citrovorum factor is administered to leukemic mice after an interval of twelve to twenty-four hours. If the 2 drugs are given together, toxicity of Aminopterin is considerably less, but treatment does not prolong lives of leukemic mice as well as Aminopterin alone. Dr. Abraham Goldin and associates of the National Cancer Institute, Bethesda, Md., conclude that tumor has a lower endogenous reserve of protection against Aminopterin toxicity than does the body as a whole. Possibly the drug inhibits an enzyme common to tumor and to healthy tissue.

Cancer Res. 14:43-48, 1954.

Anesthesiology

Morphine-Nalline Analgesia

The superior analgesic properties of morphine may be safely employed for obstetric, geriatric, or pediatric patients once the depressant effects of the opiate are diminished by the addition of *N*-allylnormorphine (Nalline). Dr. Bernard E. Cappe and associates of the Jewish Hospital of Brooklyn report that a mixture of equal amounts of the 2 drugs produces intense analgesia with slight or no alteration in the respiratory and circulatory systems. The combination of drugs was administered intravenously to 25 obstetric patients in active labor; a high degree of pain relief resulted, with no untoward reactions. Respiratory activity of the newborns was normal with the exception of the firstborn of a set of twins. The depressed child revived rapidly with intermittent positive-pressure oxygen inhalation. The morphine and Nalline mixture also may be used successfully for geriatric and pediatric conditions when intense sedation without respiratory or circulatory depression is required.

Am. J. Obst. & Gynec. 66:1231-1234, 1953.

Hematology

Cholesterol Absorption

Bile salts are essential for the esterification of cholesterol, the process which renders the lipid absorbable. The chemical structures of the bile salts influence cholesterol esterase activity differently and therefore result in variable levels of blood cholesterol. Dr. Leon Swell and associates of the Veterans Administration Center, Martinsburg, W. Va., and George Washington University, Washington, D. C., administered different bile salts to rats fed diets high in cholesterol and fat. Sodium cholate and taurocholate produced high blood cholesterol levels, whereas lower levels followed ingestion of desoxycholate and no increase was observed after dehydrocholate feeding. In vitro studies also indicate that the bile salts having 3, 2, and 1 hydroxyl groups show a respective decrease in the order of activity. Dehydrocholate, which has no hydroxyl group, is inactive in promoting cholesterol esterase activity.

Proc. Soc. Exper. Biol. & Med. 84:428-431, 1953.

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Also available: *Du-biotic Intranasal* (Bacitracin-Neomycin nose drops).

1. Poole, W. L.: Discussing Forbes, M. A. Jr., Clinical Evaluation of Neomycin in Different Bases, Southern M. J. *45*:235 (March) 1952.
2. Meleney, F.L. et al.: Surg. Gynec. & Obstet. *94*:401, 1952.
3. Waksman, S.A.: Neomycin, Rutgers U. Press, 1953, p. 194.

Doctor to Doctor

Think of a gag that fits the illustration. For every issue a new gag is published and the author is sent $5. The April 1 winner is

W. C. Heitsch, M.D.
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"I was an intern, and on our first date she said that she didn't recognize me with my clothes on."

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Corticotropin-gel
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More economical than ever!
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PHOTOGRAPH BY VICTOR KEPPLER

Penicillin—in her favorite beverage

PENALEV®

SOLUBLE TABLETS POTASSIUM PENICILLIN G

Readily soluble in familiar liquids—milk, infant formulas and juices—PENALEV meets no objections from young patients. Especially convenient for the "year-round penicillin prophylaxis" of rheumatic fever.[1]

Effective in all infections where oral penicillin is indicated, PENALEV's solubility makes dosage regulation easy. Useful for prescription compounding and for aerosol therapy.

Quick Information: *Supplied* in soluble tablets of 50,000, 100,000, 200,000, 250,000, 500,000 and 1,000,000 units of potassium penicillin G each. Dosage according to severity of infection.

Reference: 1. J.A.M.A. 151:347, 1953.

Cancer

Chemotherapy of Leukemia

Remissions of chronic lymphatic and myeloid leukemia appear to be produced and maintained by therapy with triethylene thiophosphoramide (Thio-TEPA). Dr. Harry Shay and associates of Temple University, St. Christopher's Hospital, and Einstein Medical Center, Philadelphia, administered the ethylene derivative to 39 patients with hematopoietic malignant diseases and to 10 others with inoperable carcinomas. Cases of chronic leukemia were effectively controlled by Thio-TEPA, with evidence of reduced splenomegaly, lymphadenopathy, and hematologic abnormalities. The acute and subacute leukemias responded rapidly to the cytotoxic action of the drug, but demonstrated only a temporary improvement of lymphadenopathy and blood pathology. The suppressive action of the compound was also apparent in 2 patients with metastatic carcinoma of the breast. Initial doses are guided by daily consideration of the blood condition, and vary from 2 to 10 mg. intravenously or intramuscularly. Subsequent maintenance therapy is based on hematologic response.

Arch. Int. Med. 92:628-645, 1953.

Events

Anesthesiology Meeting

The New England Society of Anesthesiologists will hold a regular meeting on April 9, 1954 at the Hotel Beaconsfield, Boston. Afternoon and evening sessions will be devoted to the presentation of papers. Dinner will be at 6 P.M., with a business meeting immediately afterward.

Vioform® CREAM
(IODOCHLORHYDROXYQUIN CIBA)

FOR eczema

Despite the diagnostic complexities of the many forms of eczema—acute, subacute, chronic, infectious, etc., treatment with Vioform Cream or Vioform Ointment is uniformly simple, convenient, and, above all, consistently effective. Vioform has been termed "one of the best antieczematous, mildly soothing . . . remedies."*

Issued: Vioform Cream 3% and Vioform Ointment 3%, 50-Gm. tubes, 1-lb. jars.
Ciba Pharmaceutical Products, Inc.
Summit, N. J.

*Sulzberger, Marion B., and Wolf, J.: Dermatologic Therapy in General Practice, ed. 3, Chicago, Year Book Publishers, Inc., 1948, p. 107.

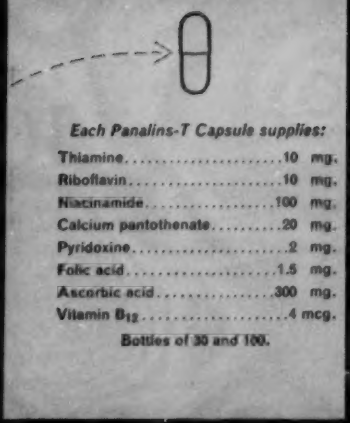
CIBA

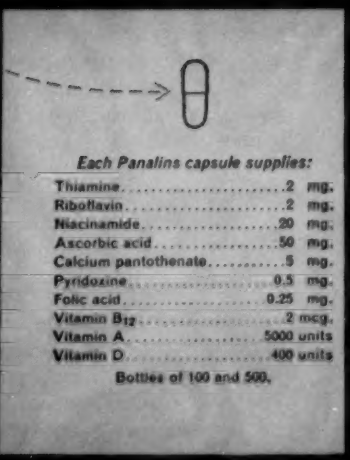
2/173458

NEW NATIONAL RESEARCH COUNCIL STANDARDS*

for effective vitamin therapy

Emphasizing that regular vitamin intake is essential to productive health and that stresses such as disease and injury profoundly affect nutritional requirements, the Committee on Therapeutic Nutrition of the Food and Nutrition Board* recommends standard vitamin formulations for both maintenance and therapeutic dosage. In Panalins and Panalins-T, Mead Johnson & Company makes these authoritatively recommended formulations available to the medical profession.





* Therapeutic Nutrition, Committee on Therapeutic Nutrition, Food and Nutrition Board, Publication 234, National Research Council.

For vitamin therapy in stress situations

PANALINS-T

N. R. C. STANDARD THERAPEUTIC VITAMIN CAPSULE*

Panalins-T supplies important water-soluble vitamins in the high therapeutic potencies needed to promote optimal recovery from disease or injury. Since the body cannot store appreciable amounts of these vitamins, regular provision of generous amounts is essential.

1 or 2 Panalins-T capsules daily in:

- severe illnesses
- chronic illnesses
- injuries, including fractures
- before and after surgery
- second or third degree burns
- previous vitamin depletion
- conditions involving a marked catabolic or anabolic response

to safeguard and maintain vitamin adequacy

PANALINS

N. R. C. STANDARD MAINTENANCE VITAMIN CAPSULE*

Panalins supplies protective potencies of ten vitamins needed for maintenance of the good vitamin nutrition essential to productive health.

1 or 2 Panalins capsules daily in:

- patients with inadequate or irregular diets
- patients with poor food habits
- patients with mild illnesses
- growing children and adolescents
- convalescents in late stages
- patients undergoing mild physiologic and pathologic stresses

* *Therapeutic Nutrition, Publication No. 234, National Research Council.*

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Our Office Nurse

Think of a gag that fits the illustration. For every issue a new gag is published and the author is sent $5. The April 1 winner is

W. L. LeFevre, M.D.
Cleveland Heights, Ohio

Mail your caption to

The Cartoon Editor
Caption Contest
No. 3

MODERN MEDICINE
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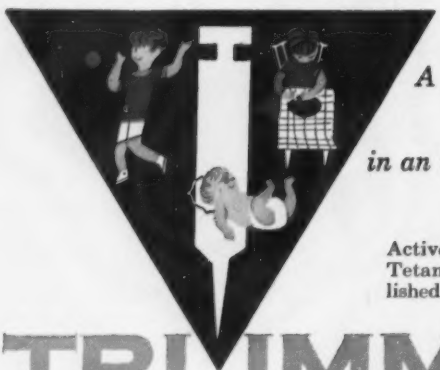
"Although it may at times feel like 'dual demons,' the word is 'duodenum.'"



A pioneer triphasic immunizing agent . . . in an improved form . . .

Active immunity to Diphtheria, Tetanus and Pertussis is established quickly and efficiently.

TRI IMMUNOL*

Diphtheria and Tetanus Toxoids and Pertussis Vaccine Combined (Aluminum Phosphate Adsorbed) Lederle

Aluminum Phosphate Adsorption concentrates the antigenic substances and . . .

Reduces even further the danger of adverse side reactions.

Vials of 1.5 cc. (1 immunization)
Vials of 7.5 cc. (5 immunizations)

Lederle

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*Trade-mark

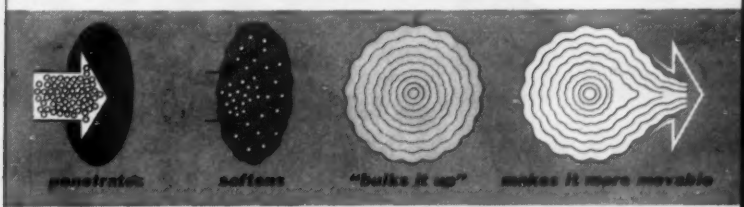
a *penetrant* emulsion for chronic constipation

KONDREMUL® (PLAIN)

COLLOIDAL EMULSION OF MINERAL OIL AND IRISH MOSS

permeates the hard, stubborn stool of chronic constipation with millions of microscopic oil droplets, each encased in a film of Irish moss... makes it more movable

KONDREMUL PATCH



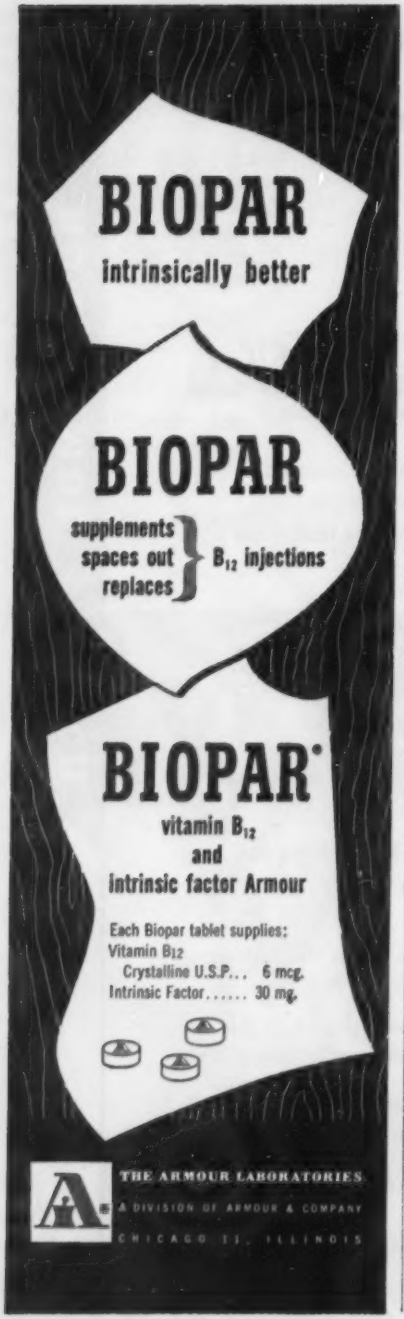
KONDREMUL *(Plain)*—Pleasant-tasting and non-habit-forming. Contains 55% mineral oil. Supplied in bottles of 1 pt.

KONDREMUL *(With Cascara)*—0.66 Gm. nonbitter Ext. Cascara per tablespoon. Bottles of 14 fl.oz.

KONDREMUL *(With Phenolphthalein)*—0.13 Gm. phenolphthalein (2.2 gr.) per tablespoon. Bottles of 1 pt.

When taken as directed before retiring, KONDREMUL does not interfere with absorption of essential nutrients.

THE E. L. PATCH CO. — STONEHAM, MASSACHUSETTS



Hepatology

Liver Damage from Colloid

Injection of the plasma expander polyvinylpyrrolidone (PVP) in the place of human plasma may result in progressive hepatic accumulations of the drug. Dr. Edward A. Gall of the University of Cincinnati and associates gave single injections of 1,000 cc. of a saline solution containing 3.5 or 4.5% of PVP to 22 patients with chronic nonfebrile disorders. Periodic histochemical studies of liver biopsy material revealed a progressive accumulation of basophilic globular deposits associated with a slight inflammatory exudate. The globules were found in Kupffer cells or sinusoids and stained deeply with Lugol's solution or Congo red. Chemical and staining properties suggested that the material was stored PVP. Histologic examination less than three months postinfusion may fail to detect intrahepatic deposition, but the compound may be demonstrated uniformly after an interval of six months.

Am. J. Clin. Path. 23:1187-1198, 1953.

Liberated...
from the pain
and discomfort
of Chronic Arthritis

PABIRIN®

An effective clinical response, adequate to liberate the patient from the discomfort of chronic arthritis and rheumatic affections, can be achieved in a large percentage of patients with Pabirin. Thus many arthritics can be restored to useful activities.

PROLONGED, CONTINUOUS RELIEF

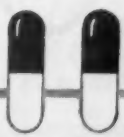
Pabirin produces higher salicylate blood levels because of the inhibitory effect of PABA on salicylate excretion. Hence, while the medication is taken, relief is prolonged and continuous.

SODIUM-FREE

All Pabirin is sodium-free. It can therefore be given with or between courses of ACTH or cortisone, and to hypertensives and cardiacs.

HIGHER POTENCY

Pabirin provides acetylsalicylic acid, widely regarded as the most efficacious and best tolerated of all salicylate compounds. In addition to 5 gr. each of aspirin and PABA, each capsule contains 50 mg. of ascorbic acid. Six capsules daily supply a full therapeutic dose of vitamin C to prevent excessive fall in the blood ascorbic acid level.



Each capsule now contains:

Acetylsalicylic acid	5 gr.
Para-aminobenzoic acid	5 gr.
Ascorbic acid	50 mg.

Pabirin is available at all pharmacies

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Lincoln, Nebraska
A Division of THE WANDER COMPANY

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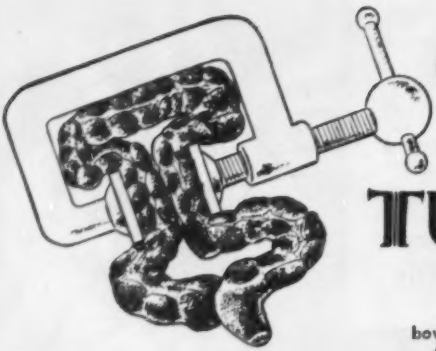

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A TIRED BOWEL
CORRECT CONSTIPATION WITH

TURICUM®
CONSTIPATION CORRECTIVE

Harsh cathartics only torture a tired, sluggish bowel. Turicum Constipation Corrective provides gentle, safe, soothing lubricoid action without oil—no danger of impaction or prevention of vitamin absorption—contains no purgatives. Promotes unique softening effect and natural stimulus to peristalsis. Pleasantly flavored. Turicum contains:

Sodium carboxymethylcelluluose in fluid gel form with magnesium hydroxide in less than laxative dose to assure hydration of gel throughout tract.

HIGHLY USEFUL IN

- Poor Bowel Habits
- Spastic Constipation
- Pregnancy
- Reducing Diets
- Bed Patients
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- Rectal Surgery

AVAILABLE in pint bottles

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Whittier LABORATORIES
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NEW may be lifesaving in staphylococcus septicemia; valuable in many other serious infections

ILOTYCIN I.V.
INTRAVENOUS

GLUCOHEPTONATE
(ERYTHROMYCIN GLUCOHEPTONATE, LILLY)

ILOTYCIN

In 20-cc. ampoules containing 250 mg. of 'Ilotycin' (Erythromycin, Lilly) base.

the original Erythromycin

May we send you complete information?

Lilly

Orthopedics

Femoral Shaft Fractures

Intramedullary nailing with supplemental Parham-Martin bands may be suitable for the treatment of sharp or spiral oblique, butterfly, and various comminuted fractures of the adult femoral shaft. Dr. D. E. Harrison of the University of Cincinnati and Dr. B. N. Rosenberg of the Veterans Administration Center, Dayton, Ohio, successfully employed Kuntscher's SMO stainless steel clover-leaf intramedullary nails and SMO stainless steel Parham-Martin bands to treat 9 fractures other than the transverse or slightly oblique types. The adjunctive internal support of the low-carbon molybdenum bands did not interfere with fracture healing. The tendency of the adductor muscles to produce varus in some sharply oblique fractures appears to be overcome by the strength of open intramedullary nailing in conjunction with the supportive internal fixation.

Am. Surgeon 20:30-40, 1954.

Hematology

Universal Blood Factor

A previously unrecognized blood factor, U, may cause fatal transfusion reactions when introduced into a patient lacking the agent. Designated U to indicate an almost universal distribution, the antigen was found in all of 690 white persons and in 421 of 425 Negroes tested by Dr. A. S. Wiener and associates of New York University–Bellevue Medical Center, New York City. Sensitization to the U factor caused a fatal hemolytic reaction in a Negro woman after transfusion of apparently compatible cross-matched blood. Postmortem investigation of the recipient's serum revealed an abnormal antibody of high titer and avidity unrelated to other known blood factors. The antibody sample was then used to determine distribution of the U factor in the population. Fatal hemolytic reactions can be prevented by careful blood grouping and cross-matching tests performed by specialized persons familiar with all blood factors.

J.A.M.A. 153:1444-1446, 1953.

Therapy

Bronchial Asthma

A quinoline derivative, phthalamaquin, is an antihistaminic bronchodilator and localizes in respiratory tissue. When 285 patients were treated for a year or more, asthma was relieved for all but 2.5% of children, 5% of young adults, and 10% of the older group. About 25% of patients had complete remissions of two to four years after withdrawal of medication. Dr. Charles F. Geschickter of Georgetown University, Washington, D. C., combines 50 mg. of phthalamaquin with 25 mg. of thenylpyramine in tablets or capsules, to be given two or three times daily for several months. Children under 5 years old receive less. During acute attacks, theophylline diaminopropanol is also administered, orally or intravenously, 180 to 250 mg. one to three times daily.

Maryland M. J. 3:14-16, 1954.

to forestall
resistance
Biosulfa
in everyday practice

PENICILLIN
still the antibiotic of first choice for common infections . . .
REINFORCED BY

TRIPLE SULFONAMIDES
to increase antibacterial range and reduce resistance . . .

Three strengths:
125M, 250M, 500M

Each tablet contains:
Penicillin G Potassium, Crystalline 125,000 (or 250,000 or 500,000) units
Sulfadiazine . . . . . 0.167 Gm.
Sulfamerazine . . . . 0.167 Gm.
Sulfamethazine . . . . 0.167 Gm.

Supplied:
Scored tablets in bottles of 50.
Biosulfa 125M also available in bottles of 500.

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Upjohn

THE UPJOHN COMPANY, KALAMAZOO, MICHIGAN

Hepatology

Esophageal Varices with Liver Cirrhosis

Esophagoscopic examination to determine esophageal varices in patients with liver cirrhosis appears to be more accurate than roentgenographic examination. In 147 patients with cirrhosis of the liver, varices were found by esophagoscopical examination in 92, or 62.5%; roentgen examination revealed varices in only 19 of the patients, or 12.9%. Varices diagnosed by roentgen examination are usually shown by endoscopic study to be large, report Drs. Irving B. Brick and Eddy D. Palmer of Georgetown University and Walter Reed Army Hospital, Washington, D.C. Development of esophageal varices in the course of cirrhosis of the liver radically alters the prognosis of the disease because of the constant hazard of massive gastrointestinal hemorrhage. Less than half the patients live one year after the diagnosis of esophageal varices is made.

Gastroenterology 25:378-384, 1953.

"I walked into a flying saucer. My wife threw it!"

Therapy

Antithyroid Drug

Potassium perchlorate may be satisfactory in preoperative or continuous treatment of thyrotoxicosis, particularly when thiourea or iodides fail. However, further trial is required for complete evaluation. The agent releases trapped iodide from the thyroid and inhibits uptake, whereas thiourea and related products prevent combination of iodide and tyrosyl groups within the gland but not uptake by parenchymal cells. In treatment of 24 patients, Drs. Ann F. Godley and John B. Stanbury of Harvard University, Boston, gave 200 to 400 mg. of potassium perchlorate orally every eight hours or maintenance doses as small as 100 mg. daily. All subjects were favorably affected, though in some instances rather slowly. Basal metabolism subsided to normal values usually in four to eight weeks; however, in a few instances rates did not return to normal for several months. In 2 cases, the drug was withdrawn because of gastrointestinal irritation.

J. Clin. Endocrinol. 14:70-78, 1954.

"I'm too busy for a checkup. See that Dr. Jackson gets a recording of my symptoms."

to combat
resistance
Erythrosulfa

in refractory or
relapsing cases

ERYTHROMYCIN
the antibiotic of choice
against resistant
Gram-positive cocci . . .

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TRIPLE SULFONAMIDES
to cover Gram-negative bacteria
and to potentiate
the erythromycin . . .

Each tablet contains:

Erythromycin	100 mg.
Sulfadiazine	0.083 Gm.
Sulfamerazine	0.083 Gm.
Sulfamethazine	0.083 Gm.

Supplied:
Protection-coated tablets
in bottles of 50 and 500.

*TRADEMARK

Upjohn

THE UPJOHN COMPANY, KALAMAZOO, MICHIGAN

Neurology

Hemispherectomy for Epilepsy

Intractable seizures due to extensive brain damage on one side may be eliminated by a hemispherectomy. Operation may also be worth while for violent behavior associated with infantile hemiplegia, with or without convulsions. Dr. David R. Johnson and associates report satisfactory results in 8 cases observed at the University of Minnesota, Minneapolis. All patients required institutional care and all had been hemiparetic from infancy or early childhood, except a man with cerebral scars after resection of glioma. Some had uncontrollable tempers. Ages ranged from 13 to 38 years. Generally, the entire cerebral cortex, including the insula, hippocampal gyrus, and inferior medial orbital gyri, was removed. Incision extended down to and across the internal capsule, including most of the basal ganglia and in later cases the caudate nucleus. In 7 instances, seizures practically ceased during observation for two to forty-seven months. In a patient with microcephaly, grand mal seizures were not stopped but dropped from 700 or 800 yearly to 80 in fourteen months. The patients were happier and better adjusted than before, and temper tantrums were replaced by cheerful cooperation. Neurologic defects were no worse and occasionally improved.

Bull. Univ. Minnesota Hosp. 25:277-283, 1954.

Dermatology

PABA for Lymphoblastoma

When roentgen therapy cannot be used for lymphoblastoma cutis or mycosis fungoides, para-aminobenzoic acid (PABA) may give considerable relief. Less edema develops with use of the potassium compound (KPAB) than with the sodium compound (NaPAB). From 18 to 21 gm. daily of KPAB may be required, but the drug may be discontinued after several weeks and then resumed if necessary. Treatment has been continued up to forty-six months without potassium toxicity or other serious reactions. Since hypoglycemia may result, meals should be adequate, with interruption of therapy during periods of anorexia or nausea. Dr. C. J. D. Zarafonetis and associates of the University of Michigan, Ann Arbor, administered NaPAB, KPAB, or both to 9 patients. Erythema, infiltration, and pruritus frequently decreased, weight was often gained, and in some cases former activities could be resumed.

Cancer 7:190-201, 1954.

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REG. U.S. PAT. OFF.
MOUTHWASH AND GARGLE

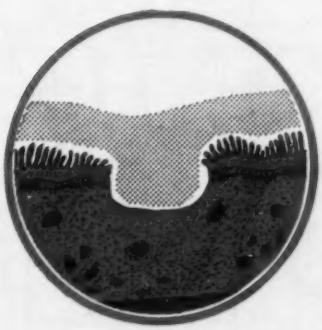
So much more than merely a mouth rinse

Actually!

Lavoris acts both chemically and mechanically to break up and flush out the germ-harboring, odor-producing mucus accumulations from mouth and throat. It stimulates capillary circulation with attending improvement of tissue tone and resistance.

A PRODUCT OF MERIT FOR 50 YEARS

THE LAVORIS COMPANY · Minneapolis, Minn.



In Peptic Ulcer management and in Hyperacidity, the *Non-constipating Antacid Adsorbant*

Gelusil®

A pleasant tasting combination of especially prepared aluminum hydroxide gel and magnesium trisilicate

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Nellie Nifty, R.N.

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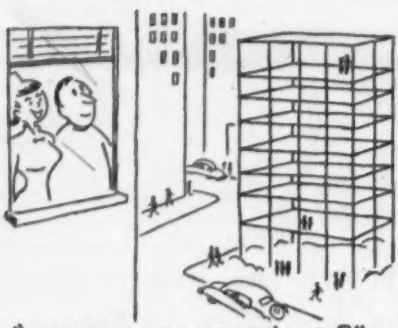
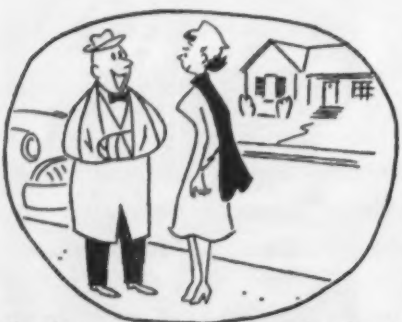
"'O' AS IN 'OZB.'"

"WE NEED THEM, DOCTOR— WE'RE PLAYING INDIANS."

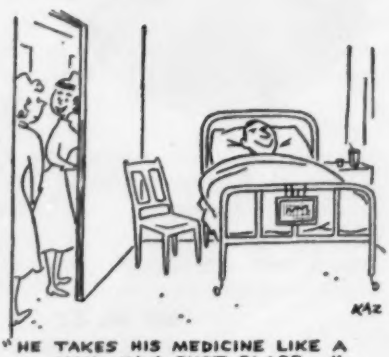


"BEAUTIFUL X-RAY, ISN'T IT?"

"THE OFFICER SAID YOU CAN KEEP IT AS A MEMENTO."



"YOU'D BE SURPRISED HOW MUCH MONEY I SAVE BY NOT BEING ABLE TO PUT MY HANDS IN MY POCKETS."



"HE TAKES HIS MEDICINE LIKE A MAN—IN A SHOT GLASS."

WHEN YOUR PATIENT MUST "KEEP GOING"

KŪSED

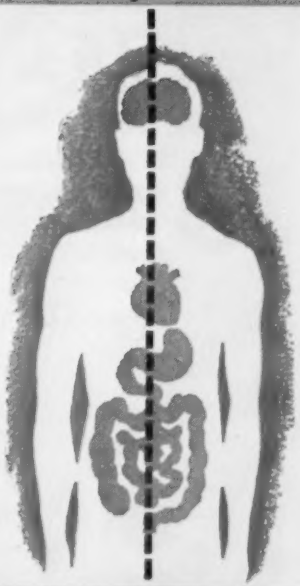
TRADEMARK

provides sedation all along the line . . . with alertness unimpaired

When your patient needs sedation but must face the stresses of daily life, you can provide *comprehensive* sedation plus a psychic release — without clouding of consciousness, gastric disturbance, or drug "hangover" — by writing KŪSED.*

KŪSED acts synergistically at *three important levels* of the nervous system — brain, spinal cord, myoneural junctions — thus permitting effective relaxation without heavy barbiturate dosage.

KŪSED is used widely in anxiety tension; in the control of the tremors and malaise of acute alcoholism; and as a prelude to psychotherapy.



Each KŪSED* capsule contains:

Mephenesin	250	mg.
Calcium Glutamate . .	62.5	mg.
Phenobarbital	7.5	mg.
1-Hyoscyamine HBr . .	0.0625	mg.

DOSAGE: 2 capsules t.i.d. or as indicated, after meals or with milk or fruit juices.

SUPPLIED: Bottles of 100, 500, and 1000 distinctive brown-and-yellow capsules.

Samples and literature on request

*Trademark of Kremers-Urban Co.

K U

Ethical Pharmaceuticals Since 1894

KREMERS-URBAN COMPANY

LABORATORIES IN MILWAUKEE

why DESITIN®

hemorrhoidal

SUPPOSITORIES

with **cod liver oil**

are safe, conservative therapy in **hemorrhoids**

more effective . . . because they provide healing crude Norwegian cod liver oil (rich in vitamins A and D and unsaturated fatty acids, in proper ratio for maximum efficacy).

more comforting . . . emollient, protective, lubricant to relieve pain, itching and irritation rapidly . . . to minimize bleeding and reduce congestion.

safe, conservative . . . . . contain no styptics, narcotics or local anesthetics, so they will not mask serious rectal disease. Easy to insert and retain.

Composition of Desitin Suppositories: crude Norwegian cod liver oil, lanolin, zinc oxide, bismuth subgallate, balsam peru, cocoa butter base. Boxes of 12 foil wrapped suppositories.

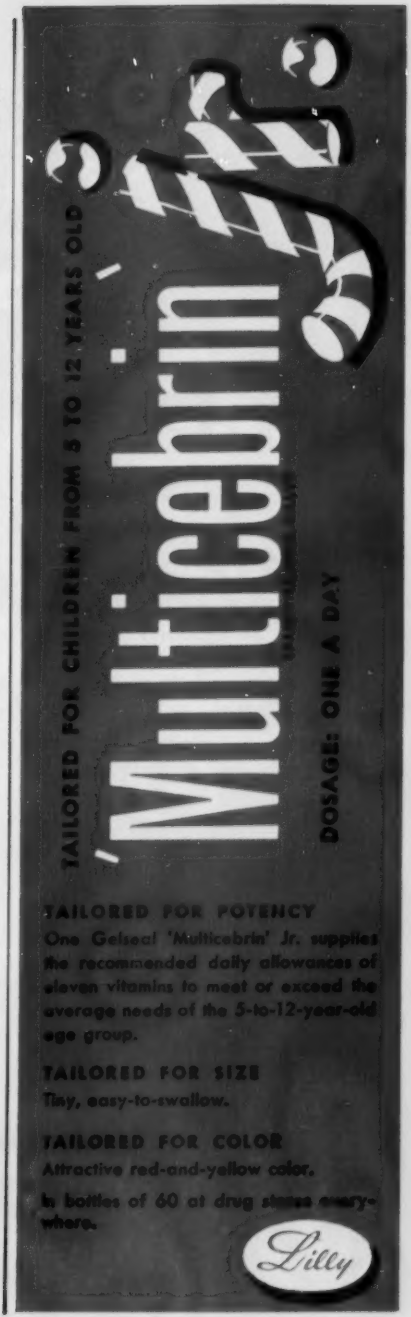
for **samples,** please write . . . . **DESITIN** CHEMICAL COMPANY ●
70 Ship Street • Providence 2, R. I.

Surgery

Transfusion after Burns

The large amounts of whole blood often given just after severe burns are unnecessary and probably dangerous. Apparently, not more than 8 or 10% of red cells is destroyed in the first forty-eight hours, and overtransfusion will increase the viscosity of circulating blood. Replacement of early losses of fluid, protein, and electrolytes by administration of plasma and electrolyte solutions is more important than massive blood transfusion. Drs. John W. Raker and Richard L. Rovit of Harvard University, Boston, measured red cell volume in dogs by an unusually accurate radioactive chromate method. Blood is withdrawn, tagged, and reinjected. Subsequent specimens are dried and analyzed with a Geiger-Müller tube. After scalding about 50% of the body surface in water at 85° C. for thirty seconds, to represent severe accidental human burns, 8% of the red cell volume is lost; after three minutes of immersion, 40% is destroyed. However, the second type of scald is far worse than most of the severe human burns encountered. Blood flows more slowly after burn shock, and equilibrium is not reached until forty to sixty minutes after injection of tagged cells has been accomplished.

Surg., Gynec. & Obst. 98:169-176, 1954.



SHORT REPORTS FROM ABROAD

FINLAND

Antibiotics for Plasma-Cell Pneumonia. Combined streptomycin and Chloromycetin may give the best results in the treatment of infants with interstitial plasma-cell pneumonia.

Of 72 patients treated for the disease by Drs. E. H. Ahvenainen and Anneli Ylinen of the University of Helsinki and the Children's Castle, Helsinki, 26 received combined antibiotic therapy; 8, or 31%, died. Of the 46 given other types of treatment, 31, or 67%, died.

Recovery on combined therapy was slow, suggesting that the antibiotics affect the complications only and not the primary disease.

FRANCE

Bronchograms with Atomized Lipiodol. An atomizer nozzle which may be introduced into the trachea allows finer dispersion of contrast material, thus eliminating many side effects. A more detailed picture of the bronchial mucosa is possible than with the conventional methods.

After securing the nozzle in place, Drs. J. Girard, J.-P. Grilliat, R. Senot, and P. Faucompre of the University of Nancy administer a mixture of light and heavy Lipiodol. The patient's position is then changed every fifteen seconds to achieve complete visualization of the bronchial tree.

The procedure may be safely employed in every stage of tuberculosis.

2

Fever with Liver Cirrhosis. Elevated temperatures often accompany alcoholic liver cirrhosis with ascites.

Drs. M. Levrat, R. Brette, and F. Tolot of Lyons believe that in most cases, fever is not a result of infection but is directly attributable to the evolution of cirrhosis.

Among 59 patients hospitalized for alcoholic cirrhosis with ascites, 32 had temperatures over 99.3° F. and 19 over 100.4° F. In only 25% of febrile cases could fever be accounted for by infection.

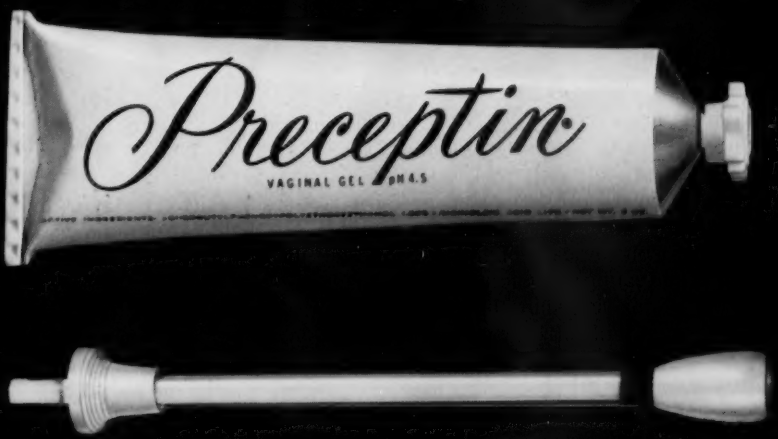
In most febrile patients, the disease continued to progress; 18 died within one to three months.

3

Infantile Encephalopathy. Apnea with resulting anoxia in the newborn may cause brain damage leading to mental and motor abnormalities.

Drs. G. Tardieu, M.-R. Klein, J.-P. Held, and J. Trélat compared

simple,
effective
conception control



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the histories of 629 children with such encephalophathies as mental deficiency and cerebral palsy with the histories of 280 mentally and physically normal children. A definite relationship between the incidence of apnea neonatorum and the subsequent infantile encephalopathy was found.

Duration of apnea apparently also influences the incidence and gravity of the neurologic and psychic sequelae; 45 of 326 children with I.Q.'s below 50 had histories of apnea on birth exceeding fifteen minutes; in the control group, prolonged apnea was 6 times less frequent.

A similar percentage of prolonged apnea was found in 194 cases of cerebral palsy. Severity of mental and psychomotor disturbances was less pronounced in cases with apnea not exceeding fifteen minutes.

ITALY

Postoperative Blood Platelets. The morphology of circulating platelets varies greatly with the general condition of the patient. Morphologic changes may parallel thromboplastic activity of the platelets.

Drs. Marco Reggiani and Franco Belloni of the University of Pavia observed platelet changes in 25 patients. Postoperative elevation of the platelet count was evident in all cases, reaching a peak about the second day after surgery. The rise was occasionally preceded by a drop below initial levels.

Morphologic and histochemical studies suggest that the increase is a result of the release of immature platelets from the bone marrow.

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URISED exerts the prompt antibacterial action of methenamine, salol, methylene blue and benzoic acid along the entire urinary tract—to rapidly reduce irritation, spasm and the pus cell count—encourage healing of the mucosal surfaces.

URISED rapidly relaxes painful smooth muscle spasm and aids in the restoration of normal tone through the dependable parasympatholytic action of atropine, hyoscyamine and gelsemium.

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Southern Branch: 240 Spring St., N. W., Atlanta, Ga.

"...use a little wine for thy stomach's sake and thine often infirmities..." —Paul

The use of wine in nutrition and in medicine dates back to the beginning of history. It is recorded in the ancient Egyptian papyri, in the Bible—as in the oft-quoted admonition from Paul to Timothy—and in epicurean and medical annals from Hippocrates down to our own times.

In recent years there has developed a demand within the medical profession that the true values of wine be determined, and that fact be separated from folklore. Accordingly, fifteen years ago, research projects in many American medical centers were initiated to determine by modern scientific techniques the food values and medical uses of wine.*

The investigations have brought forth evidence which may be of interest and practical value...

...Wine stimulates the appetite in anorexia, and gently increases gastric secretion.

...Wine serves as a quick-energy food. Its small amount of hexose is speedily absorbed, and its moderate content of alcohol is metabolized readily, even by diabetics. Its B-vitamins and absorbable iron make it a useful supplementary source of these substances.

...Wine possesses significant diuretic, vasodilating and relaxing properties. The gentle sedation provided by a small amount of wine at bedtime is a pleasant aid in inducing restful sleep.

...A little wine before or with the meal can offer a needed element of "graceful living" to the patient...it can help in the psychological care of the elderly and the convalescent.

In California (and in other regions, too) a combination of soils, climates and modern wine-making skills makes it possible to grow the world's finest wine grapes of every variety, and to produce wine of strict quality standards, true to type, moderate in price.

*Research information on wine is available on request.

Wine Advisory Board . San Francisco 3, Calif.

GERMANY

Metabolic Disorders from Isoniazid. Diabetes-like disturbances may result from treatment of tuberculosis with isoniazid.

Dr. Walter Pauly of the West German Institute of Tuberculosis Research, Honnef, studied the glucose metabolism of 50 patients administered more than 100 gm. of the agent. All had normal fasting blood sugar levels and sugar-negative urine, but 5 showed pathologic glucose tolerance curves. The tolerance curves returned to normal ten days after isoniazid treatment was discontinued.

Although rare, the diabetogenic influence of isoniazid should be watched for and treatment stopped when symptoms are detected.

2

Prolonged Posttraumatic Edema. When swelling of the distal portion of an extremity continues after recovery from injury, considerable disability may result. Once the condition is established, little can be done to relieve it.

Drs. H. Gumrich, S. Dortenmann, and E. Kübler of the University of Tübingen examined the phlebograms of 42 patients with prolonged edema and found that, in conjunction with the trauma, deep veins of the extremity became thrombosed.

Restoration of proper circulation depends upon the site of injury and development of adequate collateral circulation. Prophylaxis is most important and phlebograms made early in the course may help to establish the proper diagnosis.

THE BLUE RIBBON for effective ARTHRITIS treatment

A-C-K tablets (G. F. Harvey) combine Aspirin with Vitamins C and K in a proven, effective, sodium-free combination which allows therapeutically high blood levels of salicylate with maximum safety. By furnishing adequate replacement amounts of Vitamin C and K in each tablet, A-C-K guards against lowered prothrombin level hemorrhage and other toxic manifestations of the salicylates.

Each tablet contains:
Acetylsalicylic Acid....333 mg. (5 gr.)
Ascorbic Acid.....33.3 mg. (½ gr.)
Menadione.....0.33 mg. (1/200 gr.)
Dosage: 2 tablets every 2 hours or as directed by physician.

A development of the Wisconsin Alumni Research Foundation

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Saratoga Springs, N. Y.
Dallas, Texas

3

Breath-holding Test. An accurate evaluation of the myocardial status during and after infectious or toxic myocarditis may be made by use of the breath-holding test.

Dr. W. Sturm of the Küchwald Hospital states that the test evokes electrocardiographic changes in the diseased myocardium without taxing the muscle as much as the usual exercise tests. This is especially important in the assessment of myocarditis occurring in patients with such conditions as diphtheria, scarlet fever, tonsillitis, and influenza.

The test is performed with the patient lying in bed. A preliminary electrocardiogram is made immediately before the test; another is made while the patient holds his breath.

Electrocardiographic abnormalities appeared in 42 of 100 patients over 14 years of age who had diphtheria.

Alterations consisted mainly of depression of the S-T segment and flattening of T waves. The changes were usually seen after eighteen to twenty seconds.

Pronounced tachycardia appeared in patients with electrocardiographic changes provoked or aggravated by breath-holding; little or no tachycardia occurred, however, in those patients without significant findings.

"THE NEAREST APPROACH TO THE CONTINUOUS INTRAGASTRIC DRIP FOR THE AMBULATORY PATIENT"*

NULACIN

A pleasant-tasting tablet... to be dissolved slowly in the mouth... not to be chewed or swallowed... made from milk combined with dextrins and maltose and four balanced non-systemic antacids...**

Promptly stops ulcer pain... holds it in abeyance ... hastens ulcer healing.

In tubes of 25 at all pharmacies. Physicians are invited to send for reprints and clinical test samples.

*Steigmann, F., and Goldberg, E., J. Lab. & Clin. Med. 42:955 (1953).

**Mg trisilicate, 3.5 gr.; Ca carbonate, 2.0 gr.; Mg oxide, 2.0 gr.; Mg carbonate, 0.5 gr.

Continuous gastric anacidity for prompt relief in peptic ulcer, gastritis, hyperacidity, pregnancy heartburn.

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NOW—for that patient with CHRONIC FATIGUE

When the stress of life situations induces chronic fatigue, characterized by relative hypoglycemia and visceral spasm, Donnatal Plus (Tablets or new, palatable Elixir) provides the necessary anticholinergic blocking action, the mild sedation, and the high level of B-complex vitamin intake, that are necessary for successful management.

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(Donnatal with B Complex) TABLETS • ELIXIR

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Each 5 cc. teaspoonful of Elixir, or each Tablet, contains:

Hyoscyamine sulfate	0.1037 mg.	Thiamine	3.0 mg.
Atropine sulfate	0.0194 mg.	Riboflavin	2.0 mg.
Hyoscine hydrobromide	0.0065 mg.	Nicotinamide	10.0 mg.
Phenobarbital (¼ gr.)	16.2 mg.	Pantothenic acid	2.0 mg.
		Pyridoxine hydrochloride	0.5 mg.

4

Ganglion-Blocking Agents in Pregnancy. The lability of the autonomic nervous system in pregnancy causes an increased sensitivity to ganglion blocking agents.

Drs. Leif Dilbet and Hugo Profitlich of the Academy of Medicine, Düsseldorf, studied alterations in blood pressures of 32 healthy pregnant women after the administration of pendiomid. Sensitivity of the women to the drug proved to be highly increased.

The average fall in blood pressure after the intravenous injection of the agent was 31%, while the average drop in 18 patients who were reinjected with the blocking agent seven days after delivery was only 14%.

No serious circulatory disturbances occurred in the postpartum period.

5

Test in Diabetes. The amount of increase in ketones after administration of adrenalin offers a valuable and reliable appraisal of the metabolic adjustment abilities of the diabetic patient.

Dr. Friedrich Müller of the University of Greifswald observes that the normal individual has only a negligible rise in the ketone content of the blood adrenalin after administration; however, when pro-

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Terramycin®

BRAND OF OXYTETRACYCLINE

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in the treatment of a wide range of infections due to gram-positive and gram-negative bacteria, spirochetes, rickettsiae, certain large viruses and protozoa.

clinical advantages known

rapid absorption — Within an hour after oral administration in fasting or non-fasting state, effective serum concentrations of Terramycin may be attained.[1] It is widely distributed in body fluids, organs and tissues and diffuses readily through the placental membrane.[2,3]

prompt response — Immediate evidence of Terramycin's efficacy is often obtained by the rapid return of temperature to normal.[4]

excellent toleration — Widely used among patients of all ages, this tested broad-spectrum antibiotic is well tolerated,[5] often when other antibiotics are not.[6]

1. Sayer, R. J., et al.: Am. J. M. Sc. 221:256 (Mar.) 1951.
2. Welch, H.: Ann. New York Acad. Sc. 53:253 (Sept.) 1950.
3. Werner, C. A., et al.: Proc. Soc. Exper. Biol. & Med. 74:301 (June) 1950.
4. Wolman, B., et al.: Brit. M. J. 1:419 (Feb. 23) 1952.
5. Potterfield, T. G., et al.: J. Philadelphia Gen. Hosp. 2:6 (Jan.) 1951.
6. King, F. Q., et al.: J. A. M. A. 143:1 (May 6) 1950.

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pensity for ketosis exists, the adrenalin test produces a pronounced increase in the blood ketones.

The mechanism of the adrenalin-induced ketosis is believed to be a result of decreased ketolysis rather than of increased ketogenesis.

SWITZERLAND

Intoxication from Carbon-Monoxide. Faulty furnaces, stoves, motors, and other combustion appliances are often responsible for chronic intoxication with carbon monoxide.

Dr. Cyrille Guerdjikoff of the Industrial Hygiene Service, Geneva, states that symptoms are not caused by asphyxia, as in acute poisoning, but are probably a result of changes in enzymatic tissue processes. Fatigability, mental depression, irritability, and weakness are most frequent symptoms; physical examination is usually negative. Slight to moderate anemia may occur.

Recovery is spontaneous after elimination of the source of carbon monoxide.

2

Fetal Abnormalities from Rubella. Examination of the hearts of aborted fetuses from women who had German measles in the first trimester of pregnancy revealed anomalies in 4 of 5 cases studied. Dr. Josef Nick of the University of Zurich stresses that all such lesions are a direct result of the infective agent. The mothers of the 5 fetuses had measles between the thirty-fifth and fifty-first days of pregnancy; 2 had medical abortions, the other miscarried or delivered prematurely.

Cardiac abnormalities were the

not an estrogen
but not anti-estrogenic

Today caution surrounds the *indiscriminate* use of estrogenic hormone therapy—the consensus being that it should be used only in endocrine deficiency.

In contrast to the possibility of untoward effects from estrogenic therapy, ERGOAPIOL (Smith) with SAVIN combines remarkable freedom from side actions. Containing the total alkaloids of ergot, it induces well-defined physiological effects without disturbing the endocrine balance . . . useful in many cases where estrogenic therapy may prove undesirable. Indications are those of ergot.

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result of inhibition of formation rather than destruction of already formed organs. A partial interventricular septum was found at a stage when formation should have been complete; large intraauricular defects were seen in older embryos.

Such abnormalities in lens formation as fibrosis and cataract were seen in all 5 fetuses.

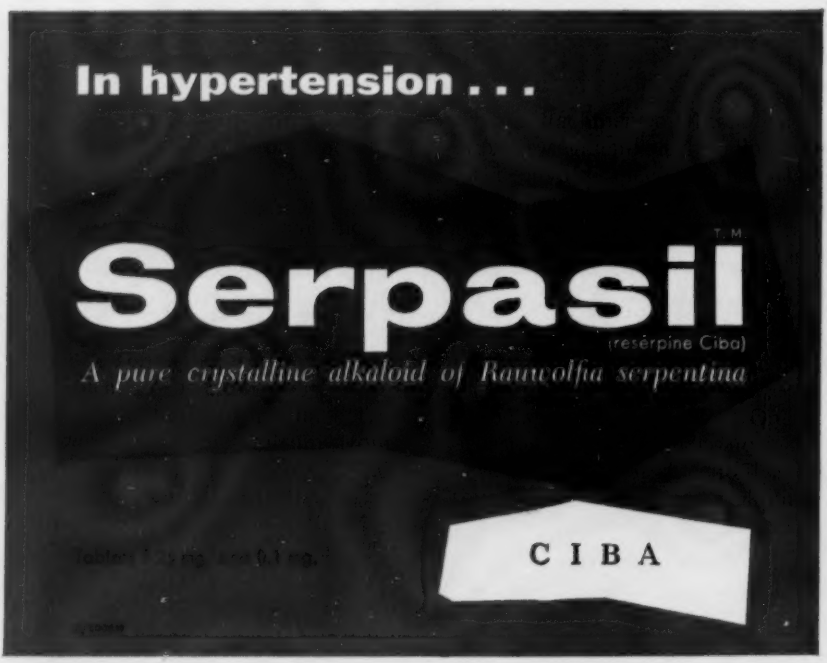
3

Evaluation of Liver Function. Determination of serum cholinesterase levels may give an accurate assessment of hepatic disease.

Observing that any disease of the liver cell will produce a change in the production of the enzyme, Dr. H. Vogt of the University of Bern made 300 serum cholinesterase determinations in 70 patients, 43 of whom had impaired liver function. In 41 of the 43 patients with liver disease, the level of serum cholinesterase was significantly lowered; the other 2 patients, recovering from slight epidemic hepatitis, had normal levels.

Changes in serum cholinesterase with hepatitis are of prognostic value, return to normal or elevation indicating recovery. With cirrhosis, constantly decreasing levels are considered ominous.

Alterations in serum cholinesterase levels also occur with tuberculosis, toxemia, hypovitaminosis, and other diseases.



AUSTRIA

Corrosive Esophageal Burns. Ingestion of even small quantities of a corrosive agent may result in severe late complications and permanent disability in the upper gastrointestinal tract. Knowledge of the agent and exact circumstances of the accident and adequate therapy may reduce the permanent damage.

In a study of 264 cases, Dr. S. Unterberger of Klagenfurt found that degree of mouth injury is not a guide to involvement in the esophagus. Since in more than half of cases no lesions are apparent, cautious esophagoscopic examination should be done during the second week. If necrotic patches of the mucosa are seen, a soft bougie is passed to loosen possible adhesions.

Esophageal obstruction usually becomes manifest about the third week. Damaged portions are inflamed, edematous, and extremely friable.

After healing of esophageal necrosis in moderate cases, esophagoscopy is done frequently; as soon as inflammation subsides, blind peroral dilation with bougies is used every other day for the first four weeks, being gradually tapered off thereafter. Formation of fibrous constriction is thus prevented.

For severe burns, food intake may be hindered or minor obstructions may be prolonged. Most patients

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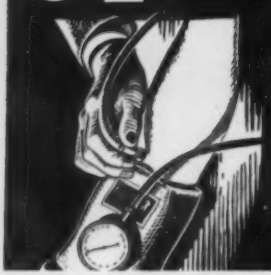
- Relieves symptoms of hypertension and engenders a feeling of tranquil well-being.
- No acute or chronic toxicity, no tolerance, no known contraindications.
- Side effects usually mild — occasionally drowsiness, nasal congestion, loose stools, headache, and dizziness.
- Dosage adjustment presents no special difficulties.



Recommended initial dosage, 1 tablet three to four times daily.
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will require gastrostomy without delay. In some cases, elimination of trauma from food will achieve healing without constriction; in others a strong thin line should be passed through the esophagus and out by the gastrostomy. The upper end of the line is strung through the nose and the 2 ends are joined to make a continuous ring. A gastric tube is then introduced as far as the stenosis with the aid of the continuous line and is left in place for several days until forced through the stricture by active peristalsis of the esophagus. The tube is then removed through the gastrostomy. By this method the esophagus may be dilated to a diameter of 8 mm. In many patients the canal remains patent.

If difficulty is encountered in passage of tubes or improvement is only transitory, passive dilation from the gastrostomy may be done with stiffer catheters. A large catheter, with openings in the stomach and proximal to the stricture, is left in situ for several months. Nutrition is maintained orally. The catheter does not reach high enough to cause pressure necrosis at the level of the larynx.

Of 54 patients treated with semipermanent sounds, 46 recovered subjectively, 2 showed no improvement, and 6 died, 2 as a result of arrosion of an atypical right subclavian artery.

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The small total dose required affords economy and virtual freedom from side actions.

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BOOKS for patients

An annotated listing of books written by physicians for lay readers. Compiled by the Medical and General Reference Library, Veterans Administration, Washington, D.C.

Teeth

Brekhus, P. J. *Your Teeth; Their Present, Past and Probable Future* Minneapolis, University of Minnesota, 1941. $2.50 ". . . a scholarly and important contribution to health literature for intelligent lay readers." *(J.A.M.A.)*

Miller, J. J. *Your Teeth, and How to Keep Them* New York City, Lantern Press, 1947. $3 "While the book is intended primarily for non-medical persons, it may have real usefulness to the physician in interpreting such material to his patients." *(J.A.M.A.)*

Russell, G. H. H. *The Care of the Teeth; Prenatal and in Infancy. A Handbook for Mothers and Expectant Mothers* Altrincham, Cheshire, Sherratt, 1948. 2*s*. ". . . of value to the lay reader. . . . worth heeding." *(J.A.M.A.)*

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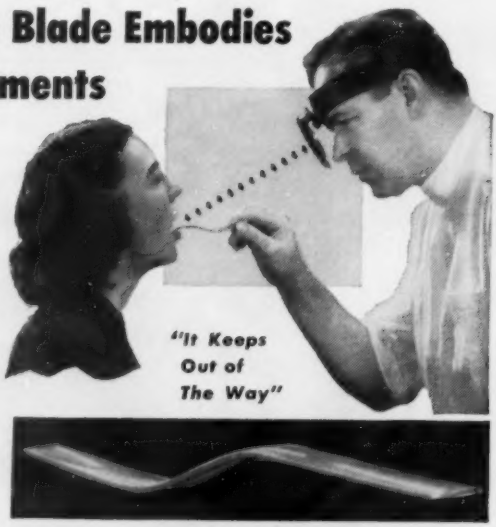
The advanced two-bend design of this new OWD Riteshape, disposable Tongue Blade permits the physician's hand to remain out of his line of vision. Other exclusive features facilitate the use and control of the blade, assure adequate strength and rigidity, eliminate slippage and afford comfort to the patient.

Made of selected hard wood. Smooth, tasteless, odorless. Every blade perfect. OWD Riteshape is an outstanding advancement in the field of disposable tongue blades. Ask your supplier. If not immediately locally available, write for sample or send $3.00 for 500 blades, postpaid.



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for the psychosomatics

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Dehydrocholic acid
250 mg.

Homatropine methylbromide
2.5 mg.

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8 mg.

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New Relaxant for *Skeletal Muscle Spasm*

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LATRODOL contains per tablet or per teaspoonful:

Mephenesin	200 mg.
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Separately, LATRODOL's components accomplish only part of the desired relaxing action; but together, they create a physiologically synergistic three-way action in arresting the spasm-pain-tension cycle.

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On prescription only. In bottles of 100 and 1000 tablets and in pints of liquid.

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Infectious Diseases and Bacteria

Eberson, Frederick *The Microbe's Challenge* Lancaster, Cattell, 1941. $3.50 "For the reader who wants detailed and technical information about bacteria translated into terms understandable for the layman, this is an excellent, if difficult book." *(J.A.M.A.)*

Rogers, Sir Leonard *Leprosy* 2d ed. Baltimore, Wood, 1940. $4.50 ". . . recommended for both lay and professional readers." *(J.A.M.A.)*

Surgery

Benmosche, Moses *A Surgeon Explains to the Layman* New York City, Blue Ribbon Books, 1945. $1 "The information is for the most part sound and readable." *(J.A.M.A.)*

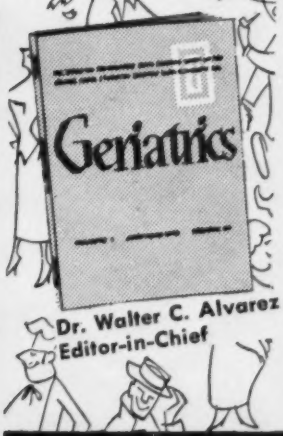
Leonards, R. A. *If You Need an Operation* New York City, Froben Press, 1947. $3 "If the doctor thinks his patient ought to have detailed information as to the operative technic . . . this is a good book. If [he] holds the opposite view, he will not recommend it." *(J.A.M.A.)*

Respiratory System

Fabricant, N. D. *The Common Cold and How to Fight It* Chicago, Ziff-Davis, 1945. $1.50 ". . . a comprehensive statement of what we know . . . written for the lay reader . . . interesting, readable and reliable." *(J.A.M.A.)*

Pomeranz, Herman *Your Respiratory System* Philadelphia, Blakiston, 1944. 98¢ "In the writing

(Continued on page 212)



Dr. Walter C. Alvarez
Editor-in-Chief

One of every 3 Americans is, or at any moment may become, a geriatric patient. More than 50,000,000 men and women are now over 45 years old. It is estimated that some 195,000,000 prescriptions will be written this year for patients in this age group. The diseases of these millions of individuals constitute the largest single field of medical research and practice. The doctor seeking to expand his professional knowledge will find it profitable to investigate this ever-growing field.

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"Data thus far available would indicate that the use of tetracycline is accompanied by a significantly lower incidence of gastrointestinal symptoms . . ."[2]

This ***newest*** broad-spectrum antibiotic may often be used with good success in patients in whom resistance or sensitivity to other forms of antibiotic therapy has developed.

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Vials of 250 mg. and 500 mg.

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and preparation of this book for the general reader an effort has been made to include in one volume—in non-technical phraseology . . . the salient facts, new and old, concerning the respiratory system, its structure, functions, diseases, treatment and hygiene." *(Preface)*

Wassersug, J. D. *Your Coughs, Colds and Wheezes* New York City, Funk, 1949. $2.95 ". . . a refreshingly frank approach to these widespread health problems . . . of great practical value." *(J.A.M.A.)*

Psychiatry

Peale, N. V., and Blanton, Smiley *The Art of Real Happiness* New York City, Prentice-Hall, 1950. $2.75 ". . . a series of cases illustrating the commonest areas in which unhappiness occurs. . . . recommended without reservation for lay readers." *(J.A.M.A.)*

Polatin, Phillip, and Philtine, E. C. *How Psychiatry Helps* New York City, Harper, 1949. $3 "Exceptionally well written, factual yet interesting. . . . recommended heartily to anyone considering seeking psychiatric help and is particularly valuable to the families." *(N.Y. Times)*

Polatin, Phillip, and Philtine, E. C. *The Well-Adjusted Personality* Philadelphia, Lippincott, 1952. $3.95

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Stern, E. M., and Hamilton, S. W. *Mental Illness; a Guide for the*

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Streesemen, Adele *You're Human, Too* New York City, Coward-McCann, 1950. $3 "The author, with her background in psychiatry and psychosomatic medicine, writes with assurance and clarity. . . . recommended to physicians as well as their patients." *(J.A.M.A.)*

Wolfe, W. B. *Calm Your Nerves; the Prevention and Cure of Nervous Breakdown* Garden City, N.Y., Garden City Pub. Co., 1948. $1 Originally published as *Nervous Breakdown.*

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Hamblen, E. C. *Facts for Childless Couples* Springfield, Ill., Thomas, 1942. $2 ". . . a well written book containing a carefully presented analysis of the factors that may combine to produce sterility." *(J.A.M.A.)*

Klein, R. A., and Schuman, B. J. *How to Have a Baby; Techniques for Fertile Marriage* New York City, Hermitage, 1951. "This book, with its many inaccuracies, is not recommended for lay persons." *(J.A.M.A.)*

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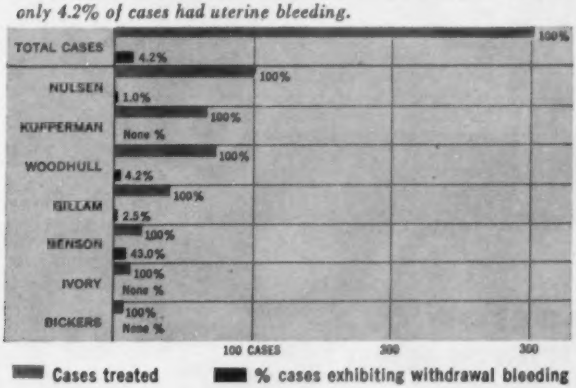

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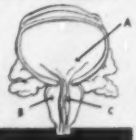

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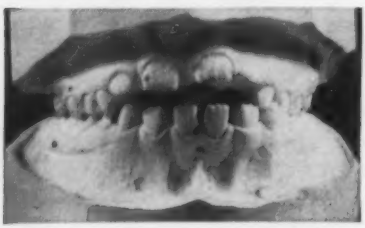

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"Very well," replied the woman, "but he's really starting at the bottom. They only let him work on very small children."—B.P.S.

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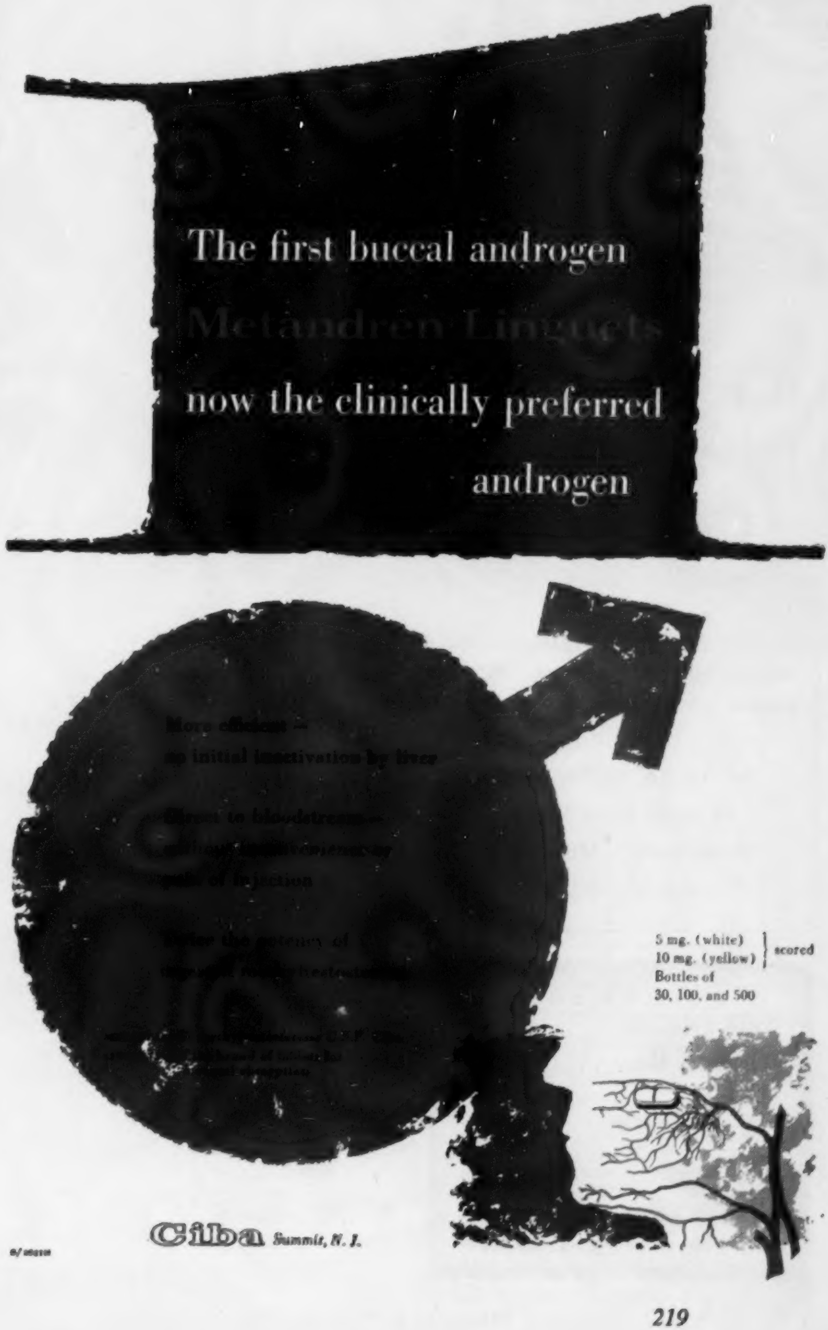
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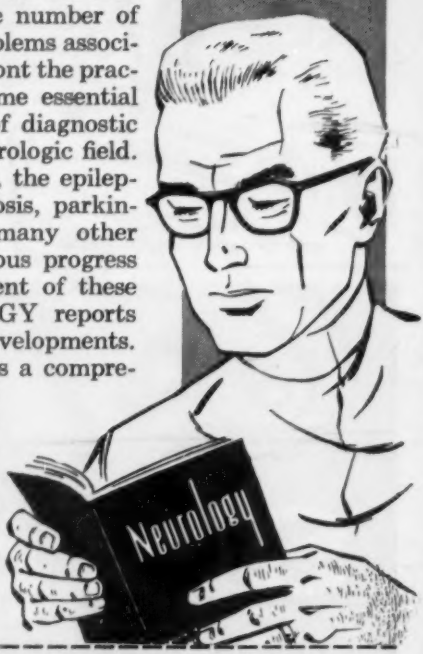

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